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ABSTRACT

This report brings together the many findings gathered during a three-year study of the 8,979 students who entered Hawaii's seven community colleges in fall 1975. Study results are organized in the following sections: (1) selected highlights from the literature and description of the flow project; (2) characteristics of entering students and "no shows"; (3) registration, continuation, and full-time rates, credit-completion ratios, and changes of major of enrolled students; (4) non-continuing student characteristics and the results of non-continuing student surveys which considered current occupational and educational activities and reasons for not returning; (5) graduate characteristics, results of alumni surveys which focused on post-graduation employment and educational activities and evaluation of the college experience and services offered, and comparison of graduates and non-returning students; (6) progression and persistence findings organized by student characteristics and continuing student survey responses; (7) results of efforts to identify the potential dropout; (8) conclusions and recommendations in areas affecting retention--college philosophy, instruction and instructors, and student personnel services--and college program and services--student-college match, student success, and institutional success. A bibliography, data tables, and sample questionnaires are appended. (MB)

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ENTRY AND EXIT
STUDENT PROGRESSION AND PERSISTENCE IN HAWAII'S COMMUNITY COLLEGES

Six-Semester Study of Fall 1975 Entering Students

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JC 790 266

April 1979

University of Hawaii
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Honolulu, Hawaii

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FOREWORD

This publication brings together the many findings gathered during a three-year study of the 8,979 students who entered Hawaii's seven community colleges in Fall 1975. The challenge in preparing this monograph was to summarize over 30 reports, released at various times, so that personnel in our community colleges and other decision makers would have a convenient source for reference and analysis as well as for the periodic undertaking of future Student Flow Projects.

We hope that this monograph will be used by Hawaii's community colleges in campus planning and evaluation and that consideration will be given to the conclusions and recommendations. The results may also be of interest to researchers undertaking similar studies of student progression.

Edwin H. Mookini
Chancellor for Community Colleges

April 1979

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To the many students who responded to various surveys and for providing information which only they could furnish;

To campus provosts, deans of instruction and deans of student services for continuing support and cooperation throughout the duration of the Student Flow Project;

To personnel in the Office of the Chancellor for Community Colleges for enabling and encouraging the initiation and conduct of the Student Flow Project;

To staff members in the institutional research unit of the Chancellor's Office: Irene Nakamura who assisted in all phases of the project; Hubert Pang who was responsible for the many computer programs which had to be written; Josephine Yee who typed various Student Flow Project reports; Gail Nishiura who prepared the manuscript for this publication; Darrell Adachi who designed the cover.

Mildred D. Kosaki
Researcher

April 1979

MAJOR FINDINGS
FALL 1975 ENTERING STUDENTS

This brief summary includes only the highlights from the three-year Student Flow Project. More detailed information is found in the various sections of this report.

A. Applications, Admissions and Registrations

1. 92 percent of the 13,631 students who applied for Fall 1975 were admitted, and 72 percent of admitted students (8,979) actually registered at the community colleges.

2. Slightly higher proportions of males, than females, were admitted and registered.

B. "No Shows": admitted students who failed to register

1. Close to three-tenths were employed, and about a fifth were attending another college.

2. About a tenth each did not enroll because they had financial problems or found that the programs or courses they desired were not available.

C. Enrolled Students

1. At the beginning of the second year after entry, only 48 percent were enrolled at their campus of entry. Registration rates for each of the five semesters after Fall 1975 entry were: 72%, 48%, 41%, 28%, 22%.

2. About 4 percent of students not enrolled at their campus of entry transferred to another community college of the University.

3. Registration rates in each of the five semesters were higher for males than for females and for vocational education majors than for liberal arts and unclassified students.

4. The proportion of students who carried 12 credits or more varied each semester. The range in full-time rates for new students was 54 to 71 percent.

5. New students completed slightly less than three-fourths of the credits they attempted and, on the average, earned either 8 or 9 credits in each of the six semesters.

6. Of the 8,979 entering students, 22 percent (2,013) changed majors for a total of 2,649 changes. Although most of the changes were made in the second (690) and third (610) semesters, there were 522 made in the fifth semester. Over 900 students changed from one

vocational education major to another. The net effects of these changes were a loss of 384 students in liberal arts, a gain of 347 in vocational education and a gain of 37 among unclassified students.

D. Non-Continuing Student Surveys

1. There were about 6,400 dropouts during the five semesters after entry, and 41 percent completed the Non-Continuing Student Survey.

2. The major reasons for not continuing enrollment in the community colleges were: transfer to another institution (21 percent), preference for work (14 percent), desired class not available (16 percent). Respondents in the five semesters, as well as in the various programs, differed significantly in their reasons for dropping out.

3. The dominant activities of non-continuing students were: work (54 percent) and transfer to another institution (28 percent). Respondents in the various programs differed significantly in their activities.

4. Employed dropouts, in the main, were working full-time (69 percent) and had clerical/sales (34 percent) or service (33 percent) occupations. About three-tenths each felt that their jobs and community college studies were closely or somewhat related, while 42 percent indicated they were "not related."

5. Dropouts who transferred to other colleges became full-time students (82 percent) and attended the University of Hawaii at Manoa (51 percent) or another community college of the University (25 percent).

6. Non-continuing students rated their college experience rather favorably on making new friends and meeting new people, faculty/student relations and instruction. A rather unfavorable rating was given to course variety. There were differences in evaluation, by program, on six out of eight items. In general, favorable ratings were given by students who majored in health services or hotel/food services.

E. Graduate Surveys

1. There were 1,400 students who graduated from the community colleges by the end of the sixth semester, and their rate of return on the Alumni Survey was 63 percent.

2. The dominant post-graduation activities were: work (49 percent), work and school (25 percent) and school (13 percent). Graduates in the various programs differed in their activities. For example, especially high proportions of health services (71 percent) and business (64 percent) graduates were working, while most of

the liberal arts majors were attending school (33 percent) or combining school and employment (40 percent).

3. The 651 employed graduates were generally working full-time (71 percent), on Oahu (64 percent) and in private industry (61 percent). About two-fifths had clerical/sales jobs and about a fourth held service positions. Close to a half of the full-time employed graduates earned under $7,500 annually. Only a fourth felt that their present jobs were definitely related to their career plans and close to a half indicated that their jobs were closely related to their major fields of study. On all items, but place of employment, graduates in the various programs differed significantly in their responses.

4. The approximately 350 respondents who were continuing their education were generally doing so as full-time students (74 percent), attending the community colleges (48 percent) or the University of Hawaii at Manoa (35 percent) and seeking the bachelor's degree (54 percent). Graduates in the various programs differed significantly in their responses on all three aspects of their education.

5. At least 80 percent of the respondents identified the following as their goals: broaden educational background, get a degree, prepare for a career and gain specific knowledge for personal use and interest. Noteworthy is the desire for both career and general education as well as the aspiration to obtain a degree. Graduates also rated the degree to which their campuses had been helpful to them in attaining their goals. On the four goals enumerated above, students rated campus helpfulness most favorably. On three of the goals (except "prepare for a career"), graduates in the various programs differed significantly in their ratings of campus helpfulness.

6. Graduates evaluated their college experience on nine items, using a four-point scale. Mean scores ranged from 3.45 to 3.07--between "somewhat satisfied" and "very satisfied." The most favorable ratings were for knowledge from courses in the major, instructor accessibility and total college experience; the least favorable, quality of labs/studios/support facilities and availability of necessary courses. On eight items (except "instructors' assistance in career development"), there were significant differences in mean scores, by program.

7. Graduates also rated 21 college services on a four-point scale. Although at least 700 respondents rated admissions, registration, library services, bookstore and physical facilities, fewer than [illegible] rated financial aids, job placement, athletic facilities, health services and housing services because many students indicated they had not used the service or that their campus did not offer such a service. Mean scores ranged from 3.32 (library services) to 2.09 (athletic facilities). The five services rated

most favorably by users were: library services, admissions, financial aids, student employment and learning assistance centers. On 13 services, mean scores were above 3.00 (somewhat satisfied), and on 11, mean scores differed significantly, by program.

F. Progression and Persistence

1. At the end of each of the six semesters, there were the following number of degrees awarded: 13, 146, 79, 555, 277 and 302 for a grand total of 1,372 degrees. These were awarded to 1,346 graduates by their campuses of entry.

2. At the end of six semesters, the persistence patterns of entering students were:

	Campus of Entry		Comm. Coll. Sys.	
	No.	Percent	No.	Percent
Total	8,979	100%	8,979	100%
Non-Persister	2,195	24%	1,913	21%
Stop-Out	757	8%	1,012	11%
Moderate Persister	3,699	41%	3,514	39%
Extreme Persister	982	11%	1,140	13%
Graduate	1,346	15%	1,400	16%

Noteworthy are the extreme persisters (about 1,000) who attended for six consecutive semesters without completing their degrees. Students differed in their persistence patterns, by program, sex, entry age, marital status, high school background, entry status, full-/part-time status, educational objective, cumulative grade point average and credit-completion ratio.

3. High proportions of the following sub-groups were non-persisters: students who were 22-24 years old at entry, unclassified students, students with cumulative GPAs below 2.0, students with CCRs below .50.

4. High proportions of the following sub-groups were graduates: public, Neighbor Island, high school graduates; full-time students; certificate (of achievement) candidates; health services majors; students with cumulative GPAs of 3.0-3.4; students with CCRs of .80-.99.

G. Identifying the Potential Dropout

1. Student records in the community colleges do not include entrance test scores or high school grade point average; neither is required for admission.

2. An attempt was made to develop prediction equations for each campus, separately for liberal arts and vocational education, in terms of predicting chances (a) of enrolling for the second semester and (b) of graduating. Regression analysis was used, and the values of R^2 (the proportions of variation explained by the variables) ranged from .245 for predicting chances of graduating for vocational education students to .058 for predicting chances of graduating for liberal arts students. The variables included in the prediction equation for each campus were: program, sex, marital status, entry age, educational objective, full-/part-time status, grade point average and credit-completion ratio.

3. Identifying the potential dropout is a complex matter. The results of the prediction equations are probabilities, based on data presently available on community college students.

SUMMARY OF
CONCLUSIONS AND RECOMMENDATIONS

A. College Programs and Services

1. Student-College Match

a. HIGH SCHOOL SENIORS, WHO MAKE UP A LARGE PORTION OF ENTERING STUDENTS IN THE COMMUNITY COLLEGES, NEED TO KNOW MORE ABOUT THEMSELVES—THEIR ASPIRATIONS, ABILITIES AND INTERESTS—AS WELL AS THE VARIOUS COLLEGES AND THEIR PROGRAMS SO AS TO IMPROVE SELF-SELECTION BY STUDENTS. THIS IS ESPECIALLY IMPORTANT BECAUSE THE COMMUNITY COLLEGES HAVE AN OPEN DOOR POLICY.

WE RECOMMEND THAT:

(1) *Each campus evaluate its efforts to provide its potential clientele with information that will aid students to select the college and program most appropriate to their interests and abilities.*

(2) *Each campus explore ways to work with high school counselors and high school teachers in preparing students for, and assisting them in, making decisions concerning postsecondary education.*

b. THE COMMUNITY COLLEGES NEED RELEVANT INFORMATION ON POTENTIAL AND ENTERING STUDENTS TO ENABLE ADEQUATE AND APPROPRIATE LEVELS OF COLLEGE SERVICES THAT WILL PROMOTE AND MAXIMIZE STUDENT SUCCESS.

WE RECOMMEND THAT:

(1) *Campuses, working with the Office of the Chancellor for Community Colleges, include the results of placement tests in the student information system of the community colleges.*

(2) *The Office of the Chancellor, working with the deans of the various campuses and appropriate University personnel, explore how the Common Application Form may be revised from the standpoint of community college applicants and community college planning.*

(3) *As resources permit, campuses consider alternative ways of obtaining data on the high school academic performance of entering students.*

(4) *Each campus evaluate the adequacy and appropriateness of its developmental education program and plan necessary adaptations in view of the characteristics of the entering group.*

(5) *Each campus evaluate the match between its program capacities and potential student demand and plan necessary adjustments as feasible. The Office of the Chancellor for Community Colleges should be apprised of serious differences between capacity and demand for further exploration of alternative solutions.*

(6) *The Office of the Chancellor, in consultation with the provosts and deans, develop a questionnaire for entering students to obtain further information which should be helpful to personnel engaged in program evaluation and planning. (See Appendix I-1 for a draft.)*

2. Student Success

a. IN ORDER TO MAXIMIZE THE ATTAINMENT OF GOALS, STUDENTS NEED TO KNOW ABOUT THE SPECIFIC STUDENT AND SUPPORT SERVICES OFFERED BY THEIR CAMPUS. AN EFFECTIVE ORIENTATION PROGRAM IS NECESSARY AS ARE APPROPRIATE MATERIALS AND RESOURCES.

WE RECOMMEND THAT:

(1) *Campuses evaluate their orientation program, possibly seeking feedback from second-semester students and dropouts.*

(2) *Campuses consider the feasibility of scheduling orientation sessions throughout the first semester at critical times (after six-week or mid-semester exams, for example, or before such exams to prepare students).*

(3) *Campuses evaluate their catalogues, possibly in consultation with second-semester students, for effectiveness in orientation programs.*

(4) *Academic programs consider alternative ways of describing their program requirements and potential job opportunities as well as suggesting student qualifications that enhance success.*

(5) *Student services personnel consider alternative ways of publicizing their services to maximize use by students who might profit from such assistance.*

(6) *Personnel involved in orientation sessions be knowledgeable about the institution's programs, services and requirements. Both faculty and counselors should participate in orientation programs, and they should be sensitive to the image of the college they are projecting.*

b. COLLEGES NEED TO ASSESS THE BASIC ACADEMIC SKILLS OF ENTERING STUDENTS FOR APPROPRIATE PLACEMENT IN THE DEVELOPMENTAL EDUCATION PROGRAM AND FOR EARLY ACADEMIC ADVISING.

WE RECOMMEND THAT:

(1) *Colleges continue to evaluate the effectiveness of their developmental education programs and consider an analysis of the progression and persistence of their students.*

(2) *Colleges assess the adequacy of their provisions for academically advanced students and consider such alternatives as establishing honors programs and encouraging concurrent registration at four-year campuses.*

c. THE ATTITUDES AND COMPETENCE OF COMMUNITY COLLEGE INSTRUCTORS LARGELY DETERMINE THE TEACHING/LEARNING ENVIRONMENT OF A CAMPUS.

WE RECOMMEND THAT:

(1) *Faculty continue to be accessible to students for academic advising, career counseling and other assistance.*

(2) *Campuses seriously consider the feasibility of campus-wide use of student ratings of instruction so as to obtain suggestions for improving the learning environment.*

(3) *Faculty and staff development activities be given high priority as a means of assuring the continuing vitality and renewal of campus personnel.*

d. PROGRAMS AND CLASSES DESIRED BY STUDENTS ARE SOMETIMES UNAVAILABLE, AND THE EXTENT AND NATURE OF SUCH UNAVAILABILITY NEED EVALUATION AND REMEDIATION IF STUDENT PROGRESSION AND PERSISTENCE ARE TO BE ENCOURAGED.

WE RECOMMEND THAT:

(1) *Campuses consider ways of improving the scheduling of classes so that student interests are met to a greater degree. Preregistration may be one alternative.*

(2) *Oahu campuses promote concurrent registration, if feasible, as a means of enriching course variety and coping with class/work conflicts.*

e. CHANGES OF MAJOR MAY NOT ALWAYS BE A REFLECTION OF STUDENT INDECISION, BUT MAY SOMETIMES BE A RESULT OF STUDENTS BECOMING MORE AWARE OF THEIR ABILITIES AND INTERESTS AS WELL AS OF PROGRAM REQUIREMENTS AND ALTERNATIVES.

WE RECOMMEND THAT:

(1) Instructors and counselors be available for consultation by students who are exploring a change of major so as to make that choice an informed one.

f. IDENTIFYING THE POTENTIAL DROPOUT AND INTERVENING BY THE CAMPUS AT AN EARLY STAGE WILL PROBABLY IMPROVE STUDENT PROGRESSION AND PERSISTENCE.

WE RECOMMEND THAT:

(1) Campuses evaluate the usefulness of the prediction equations and consider their use with entering students in orientation sessions, possibly around mid-term.

(2) Campuses develop an early warning system which encourages instructors to confer with potential dropouts and to refer them to counselors if feasible.

(3) The results of the proposed entering student survey be analyzed by campus personnel to identify potential dropouts, and counselors develop outreach programs for high risk students to provide them with appropriate advising services.

g. THE ROLE AND SCOPE OF COUNSELING SERVICES AND THE EFFECTIVENESS OF COUNSELING ADD SIGNIFICANTLY TO THE TEACHING/LEARNING ENVIRONMENT OF OUR CAMPUSES.

WE RECOMMEND THAT:

(1) Campuses evaluate their counseling services, including the extent and nature of (a) contact with entering students, (b) career counseling and (c) job placement.

(2) Campuses evaluate the ratings of graduates and dropouts on counseling services, by program, so that appropriate improvements can be made.

(3) Campuses develop (a) an outreach program for dropouts who are not enrolled at another campus and for students who were suspended or dismissed for academic reasons and (b) counseling services for returning students to enhance their chances of success.

h. STUDENT SUPPORT SERVICES, PARTICULARLY IN STUDENT EMPLOYMENT AND FINANCIAL AID, CAN HAVE POSITIVE EFFECTS ON STUDENT RETENTION.

WE RECOMMEND THAT:

(1) *Future student flow studies include an analysis of the progression and persistence of students receiving various forms of financial aid.*

(2) *Campuses examine the adequacy of their financial aid programs and the extent of use by students as well as evaluate the effectiveness of various financial aid packages on persistence.*

(3) *Campuses evaluate the results of the proposed Entering Student Survey which enables identification of students with financial need and makes possible early assistance from the financial aid staff.*

3. Institutional Success

RESULTS FROM THE STUDENT FLOW PROJECT CAN BE USEFUL IN CAMPUS EFFORTS TO EVALUATE ITS PROGRAMS AND SERVICES AND TO PLAN FOR GREATER INSTITUTIONAL SUCCESS.

WE RECOMMEND THAT:

(1) *Campuses analyze the data from the Student Flow Project--progression and persistence data and results from various surveys--in evaluating their programs and services, defining problem areas and seeking ways of improvement. In this effort, campuses may require assistance and direction from the Office of the Chancellor.*

(2) *Campuses evaluate the persistence patterns of their entering students in terms of their characteristics.*

(3) *Campuses explore the feasibility of using college environment assessment devices to seek evaluations of the college environment by campus personnel and students.*

(4) *The Office of the Chancellor encourage campuses to share their areas of expertise in programs and services with other colleges.*

B. Future Student Flow Studies

WE RECOMMEND THAT:

(1) *Student flow studies of entering groups in the community colleges be undertaken at least every five years and that the study be broadened, at a minimum, by including analysis of students who transfer to four-year campuses within the University of Hawaii. (Details are provided on pages 108 to 110 of this report.)*

(2) *The feasibility of a student flow study involving all of the University's campuses be considered by the University.*

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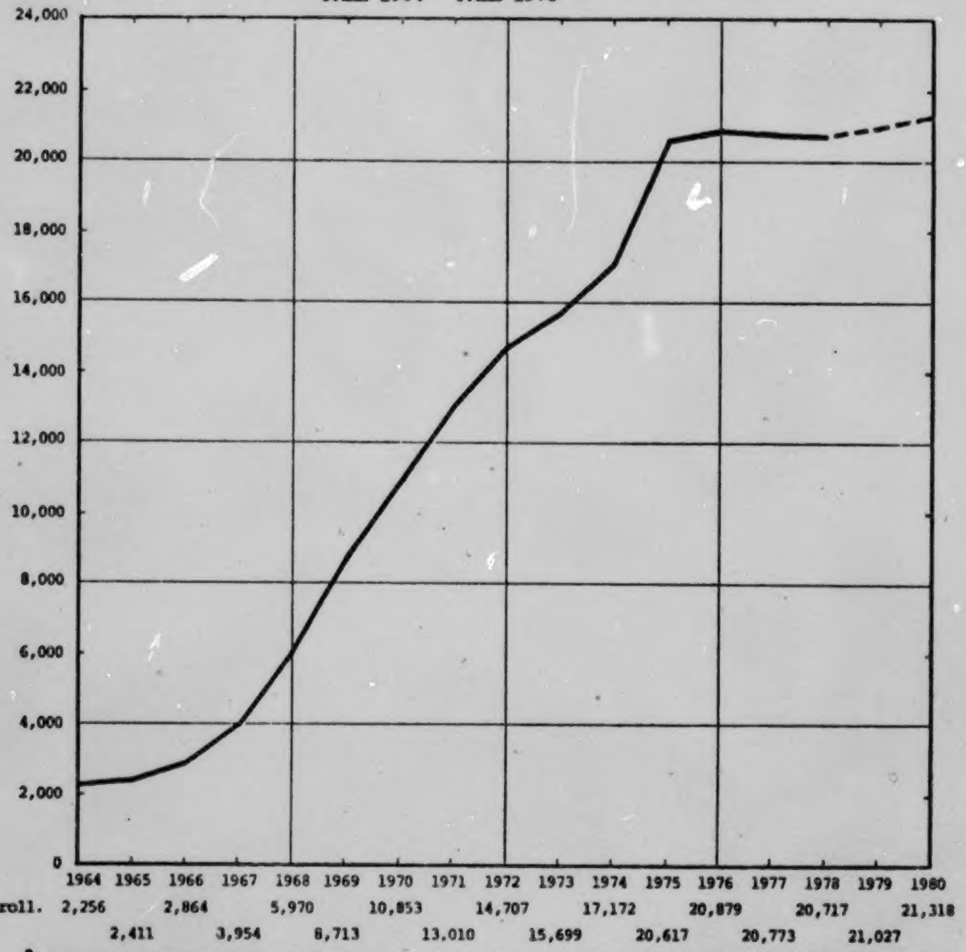
I. INTRODUCTION

Hawaii's open door colleges were created in 1964, and their enrollment growth was tremendous in the first decade, rising from 2,256 in Fall 1964 to 17,172 in Fall 1974. This was due, in part, to the increasing numbers of high school seniors and their rising educational aspirations. Just as important, if not more so, were the expansion and enrichment of educational opportunities offered by the community colleges.

Figure I shows the dramatic increase in enrollment in the initial period and the stable nature of registrations in recent years.

FIGURE 1

STUDENT ENROLLMENT IN THE COMMUNITY COLLEGES[a]
FALL 1964 - FALL 1978



[a] Includes enrollment of Hawaii Community College in years prior to Fall 1969 at which time it was transferred from the Department of Education to the University of Hawaii.

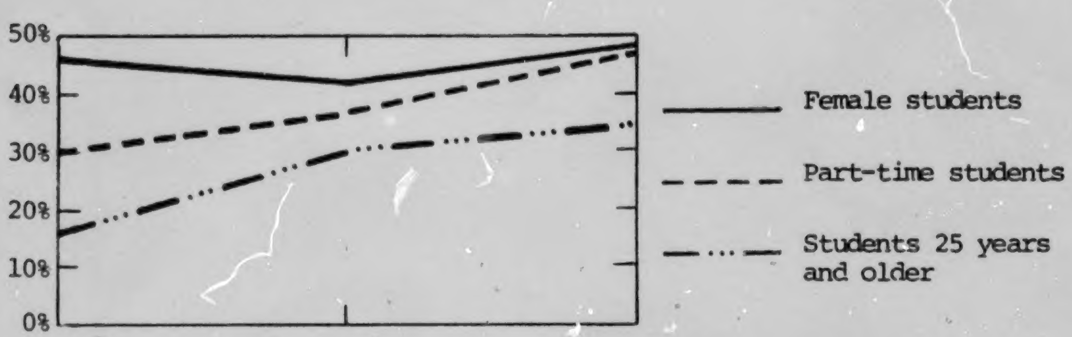
Sources: University of Hawaii, Fact Book, 1965-1969; University of Hawaii, Management Systems Office and Office of the Chancellor for Community Colleges; enrollment projections for 1979 and 1980 from University of Hawaii, Analytical Studies Office.

The establishment of the community colleges, as part of the University of Hawaii, coincided with the University's interest in institutional research and information systems as necessary components in the effective planning and management of a system of higher education. This was indeed fortunate, making possible, with relative ease, the collection of data on students, faculty and staff, income and expenditures and space.

From the information system on students, we know that there have been increases in women, in part-time enrollees and in older students (**Figure 2**). Furthermore, the mean age of students has risen: from 20.7 years in 1968 to 23.6 in 1973 and 24.8 in 1978.

FIGURE 2

SELECTED CHARACTERISTICS OF STUDENTS IN HAWAII'S COMMUNITY COLLEGES
Fall 1968, 1973, 1978



1968[a]	1973	1978	
46%	42%	48%	Female students
30%	37%	47%	Part-time students
16%	30%	35%	Students 25 years and older

[a] Excludes students 25 years of age.

Source: University of Hawaii, Office of the Chancellor for Community Colleges.

In recent years there has been increasing interest in supplementing the information system on students so as to obtain data on the progression, semester by semester, of those who enter the community colleges. To what extent is the open door a revolving door? And for what kinds of students? Who graduates and how many out of an entering class? How long did they take? How many have no plans to obtain degrees? Because of such interests, the Student Flow Project was undertaken in Fall 1975. Before describing our project, some relevant highlights from the national literature are presented below.

A. Selected Highlights from the Literature

The literature is replete with studies of college dropouts, particularly in four-year colleges, including one conducted by the University of Hawaii.[1] Earlier monumental studies by McNeeley in 1937 and Iffert in 1957[2] and many current single-campus investigations concentrate on the rate of attrition (failure to graduate within a specified number of years). These "census-type" studies "involve following an entering freshman class through a number of semesters of work (frequently to graduation) in order to establish rates for attrition by semester and percentage of graduates after eight or fewer semesters. These studies serve primarily to establish a baseline or norm for the particular institution. . ."[3]

In recent years, there have been efforts to find out why students withdraw. These "autopsy-type" studies require dropouts to fill out questionnaires or to engage in exit interviews. This approach is criticized because of failure to assess the reliability and validity of questionnaires, the generally poor response rate and the impossibility of comparing dropouts and non-dropouts.[4]

In sharp contrast to previous and many current investigations of attrition and retention among college students is the work of Alexander Astin. In a recent publication, Preventing Students from Dropping Out, Astin reports the results of a survey of undergraduate students selected from a representative national sample of 358 two- and four-year colleges and universities. Students were initially surveyed in 1968 as entering freshmen and followed up four years later. The study is both longitudinal and multi-institutional. Its purpose is described by the author thus: "Dropping out of college has been a much-researched topic, but the research has not clearly revealed which factors influence students to leave or how these factors might be controlled by those with a vested interest in preventing students from leaving. Thus, the research reported here focuses primarily on identifying ways to help students finish college."[5] The report includes the results of a multivariate analysis of some one hundred characteristics of students at time of college entry to form an estimate of "dropout-proneness."

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[1] University of Hawaii, Institutional Research Office, A Longitudinal Study of Freshmen Entering Manoa Campus in Fall 1966, Report I (Honolulu, Hawaii: The University, January 1968).

[2] John H. McNeeley, College Student Mortality, Bull. No. 11 (Washington, D. C.: U. S. Office of Education, 1937) and Robert E. Iffert, Retention and Withdrawal of College Students, U. S. Department of Health, Education and Welfare, Bull. 1958, No. 1 (Washington, D. C.: U. S. Government Printing Office, 1957).

[3] Dorothy M. Knoell, "Institutional Research on Retention and Withdrawal" in: Research on College Students, Hall T. Sprague, editor, Co-sponsored by The Western Interstate Commission for Higher Education and The Center for Higher Education, Berkeley (December 1960), p. 43.

[4] Patrick T. Terenzini, An Evaluation of Three Basic Designs for Studying Attrition (Syracuse, New York: Syracuse University, Department of Higher/Postsecondary Education, 1978), pp. 5-6.

Another recent study which was especially helpful is Through the Open Door; A Study of Patterns of Enrollment and Performance in California's Community Colleges. This research included 32 community colleges, representative of California's 96 two-year institutions, and 34,000 students. Six questions guided the conduct of the study, including the following three:

1. How many and what kinds of Community College students do not persist to the end of each successive term after initial registration and do not return after completing a particular term?

2. In what ways do the nonpersisters differ from their classmates who enroll in continuous attendance to the associate degree and/or transfer? What can the colleges do to increase retention of more students to the place where they earn degrees or transfer, by making changes in policies, programs, and services?

3. What is the employment experience of Community College students who do not complete a prescribed curriculum in an occupational field or a transfer program? . . .[6]

The literature also includes the point of view that "the benefits, the positive outcomes, and the reasons to encourage stopping out are substantial."[7] This sentiment was shared by the author of Stopping Out; A

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[5] Alexander W. Astin, Preventing Students from Dropping Out (San Francisco: Jossey-Bass, Inc., 1975), p. ix.

[6] California Postsecondary Education Commission, Through The Open Door; A Study of Patterns of Enrollment and Performance in California's Community Colleges, Dorothy M. Knoell, Project Director, Commission Report 76-1 (February 1976), p. 8.

[7] Robert Cope and William Hannah, Revolving College Doors; The Causes and Consequences of Dropping Out, Stopping Out, and Transferring (New York: John Wiley and Sons, 1975), p. viii.

Guide to Leaving College and Getting Back In, the purpose of which is to help students to plan their stopout period.[8]

Of extreme usefulness is Tinto's recent "theoretical synthesis" of recent research on dropouts. He "attempts to formulate a theoretical model that explains the processes of interaction between the individual and the institution that lead differing individuals to drop out from institutions of higher education, and that also distinguishes between those processes that result in definably different forms of dropout behavior."[9] Tinto's theoretical model "argues that the process of dropout from college can be viewed as a longitudinal process of interactions between the individual and the academic and social systems of the college during which a person's experiences in those systems . . . continually modify his goal and institutional commitments in ways which lead to persistence and/or to varying forms of dropout."[10] For example, low goal commitment and low institutional commitment can lead to dropout. High goal commitment and low institutional commitment may lead to transfer to another institution.

This report will not include an extensive review of the literature. This has been done especially well by Knoell (1960), Tinto (1975) and Pantages and Creedon (1978).[11] All three were critical of attrition studies and included suggestions for improving such research. Unfortunately, the last two summaries were not available at the time we undertook our Student Flow Project, but they should prove helpful in evaluating our efforts and in indicating ways in which future projects might be made more effective.

We will, from time to time, draw upon the national literature for illustrative purposes, particularly as we compare the results of our study with selected similar undertakings. No exhaustive search of the literature is claimed in making such comparisons.

B. The Student Flow Project

The nature of Hawaii's community colleges--low tuition, open door admissions policies, convenient geographical locations, programs in the liberal arts and vocational education--attracts a diverse clientele. While many students are seeking associate degrees or certificates, others are not. The latter group ranges from students interested in taking only one course for personal or recreational reasons to those planning to take specific courses necessary or feasible for particular jobs or for transfer purposes. It is therefore important to remember that "dropping out" (leaving a campus before completing a degree within a specific period of time) per se is not "bad"; for some students it may well be a positive act--to transfer to another school or to accept employment. As a matter of fact, dropping out for some students may be temporary, and stopping out may well become part of the usual pattern of college attendance in the future.

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[8] Judi R. Kesselman, Stopping Out; A Guide to Leaving College and Getting Back In (New York: M. Evans and Co., 1976).

[9] Vincent Tinto, "Dropout from Higher Education: A Theoretical Synthesis of Recent Research," Review of Educational Research, Vol. 45, No. 1 (Winter 1975), p. 90.

[10] Ibid., p. 94.

[11] Timothy J. Pantages and Carol F. Creedon, "Studies of College Attrition: 1950-1975," Review of Educational Research, Vol. 48, No. 1 (Winter 1978), pp. 49-101.

I. Assumption, Goal and Purposes

In addition to recognizing that dropping out is a descriptive term, not a pejorative one, we assumed, in designing the Student Flow Project, that:

a. Community colleges, while committed to the open-door policy, also have educational/counseling responsibilities to (1) aid their students in making career/educational choices and (2) decrease or minimize attrition among students whose interests, abilities and motivations make further education or degree attainment feasible.

b. Community colleges need to evaluate their efforts, and an important source of evaluation is their clientele--continuing students, non-continuing students and graduates.

c. Student flow patterns and student feedback should be among the important factors used by community colleges in their planning and evaluation.

Within this context, we defined the goal of the Student Flow Project as follows: to assist community college personnel to develop a teaching/learning environment responsive to student needs, abilities and interests and conducive to intellectual and social growth. While the community colleges already have much information on students to evaluate their effectiveness and to plan for improvements, data on student progression were not available in 1975. The Student Flow Project was undertaken to meet this need.

Specifically, the Project supplements the existing student information system by providing data on the progression of an entering group for five semesters after entry and by seeking feedback from those who leave the colleges either as "dropouts" or graduates. ("Dropouts" include both voluntary withdrawals and students who are suspended for academic reasons.)

The focus of the Student Flow Project is the group that entered the community colleges in Fall 1975, either as new or transfer students. The purposes of this six-semester study of the 8,979 entering students were several:

- to develop descriptions of students who apply to the community colleges, who are admitted and who actually enroll.
- to find out why "no shows" did not enroll.
- to describe entering students and to keep track of their progression and performance, semester by semester.
- to describe students, at the end of six semesters, in terms of five persistence patterns:

  --non-persister: enrolled for only one semester.

  --moderate persister: enrolled for at least two, but fewer than six, consecutive semesters.

  --stopout: enrolled for at least two non-consecutive semesters.

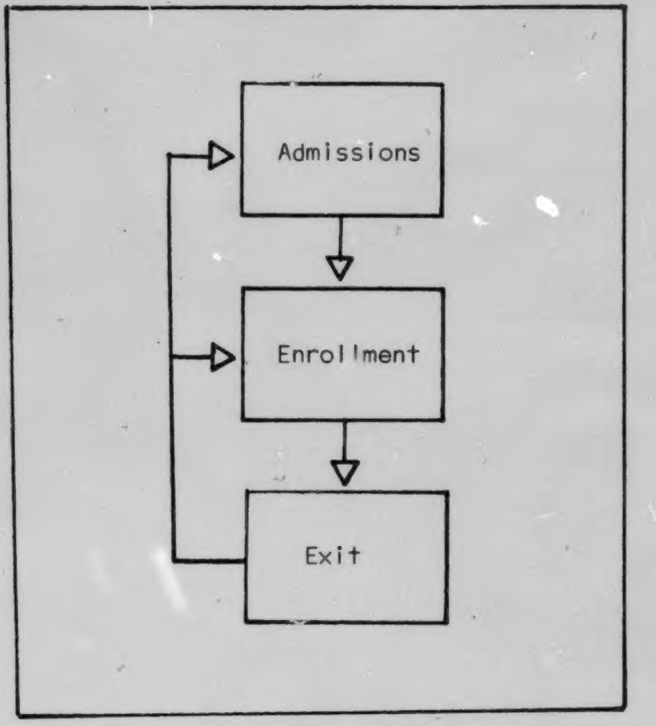
  --extreme persister: enrolled for six consecutive semesters without achieving graduation.

  --graduate: received a certificate of achievement or associate degree by the end of six semesters.
- to provide opportunities for exiting students (dropouts and graduates) to evaluate their community college experience and to furnish information on their activities immediately after exit.
- to explore the feasibility of using student flow data to identify potential dropouts.
- to indicate the implications of student flow data for planning and evaluation on the campus and state levels through staff development conferences and campus visitations and consultations.

In order to aid personnel in the community colleges, summaries and analyses were prepared for the community college total and for each of the seven campuses. To make these analyses meaningful in statistical terms, we used the Statistical Package for the Social Sciences (SPSS).

2. Three Basic Components

We defined three major components in the Student Flow Project:



A student may be admitted, enroll and then leave either as a dropout or a graduate. Both groups of exiting students may (a) re-enroll at the same college at a later date or (b) attend another community college in the University of Hawaii System by first applying for admission at that college.

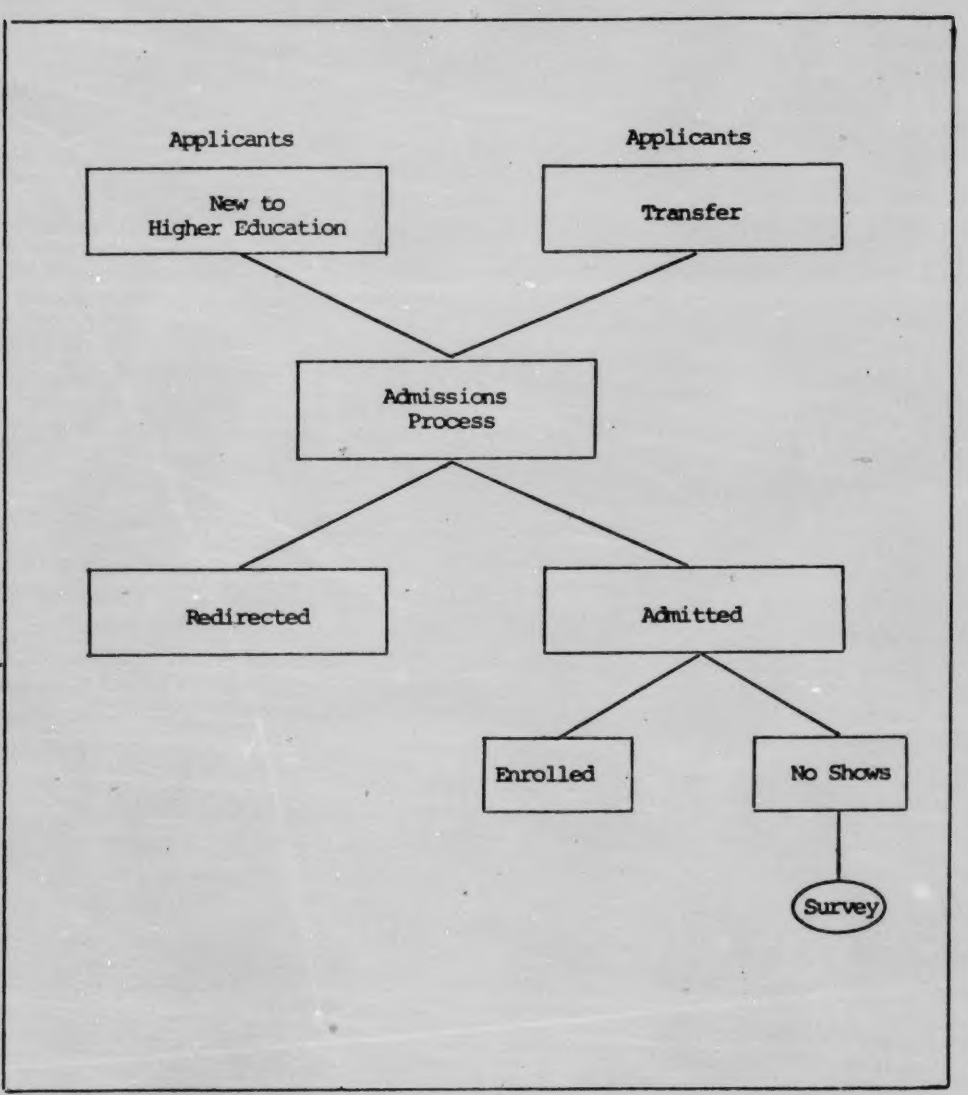
a. Admissions Components (Figure 3)

Applicants, admittees and registrants were described in terms of the following characteristics: sex, age at entry, marital status, high school background, educational objective and program.

"No shows" (admittees who did not register in Fall 1975) were sent a simple questionnaire asking them to indicate why they did not enroll in Fall 1975.

FIGURE 3

THE ADMISSIONS COMPONENT


Applicants
Applicants
New to Higher Education
Transfer
Admissions Process
Redirected
Admitted
Enrolled
No Shows
Survey

b. Enrollment Component (Figure 4)

At the beginning of each of the succeeding five semesters, reports on student progression were prepared, including information on:

- continuation/non-continuation rates
- change-of-major rates
- graduation rates

Students in each of the above groups were described in terms of 10 characteristics:

personal: sex, age at entry, marital status

academic: high school background, entry status (new or transfer), full-/part-time status, educational objective, program, grade point average and credit-completion ratio (credits earned divided by credits carried)

Although our plan was to check progression for six semesters, we decided to extend this to eight because this seemed feasible on the basis of the data we had.

c. Exit Component (Figure 4)

Shortly after the beginning of each semester, non-continuing students were sent a questionnaire asking them to indicate their reasons for non-continuance at their campus of entry, their current activities and their evaluations of their community college experience. Responses were analyzed in terms of student characteristics and for each campus. In addition, we summarized data on non-continuing students who transferred to another community college in the University of Hawaii System.

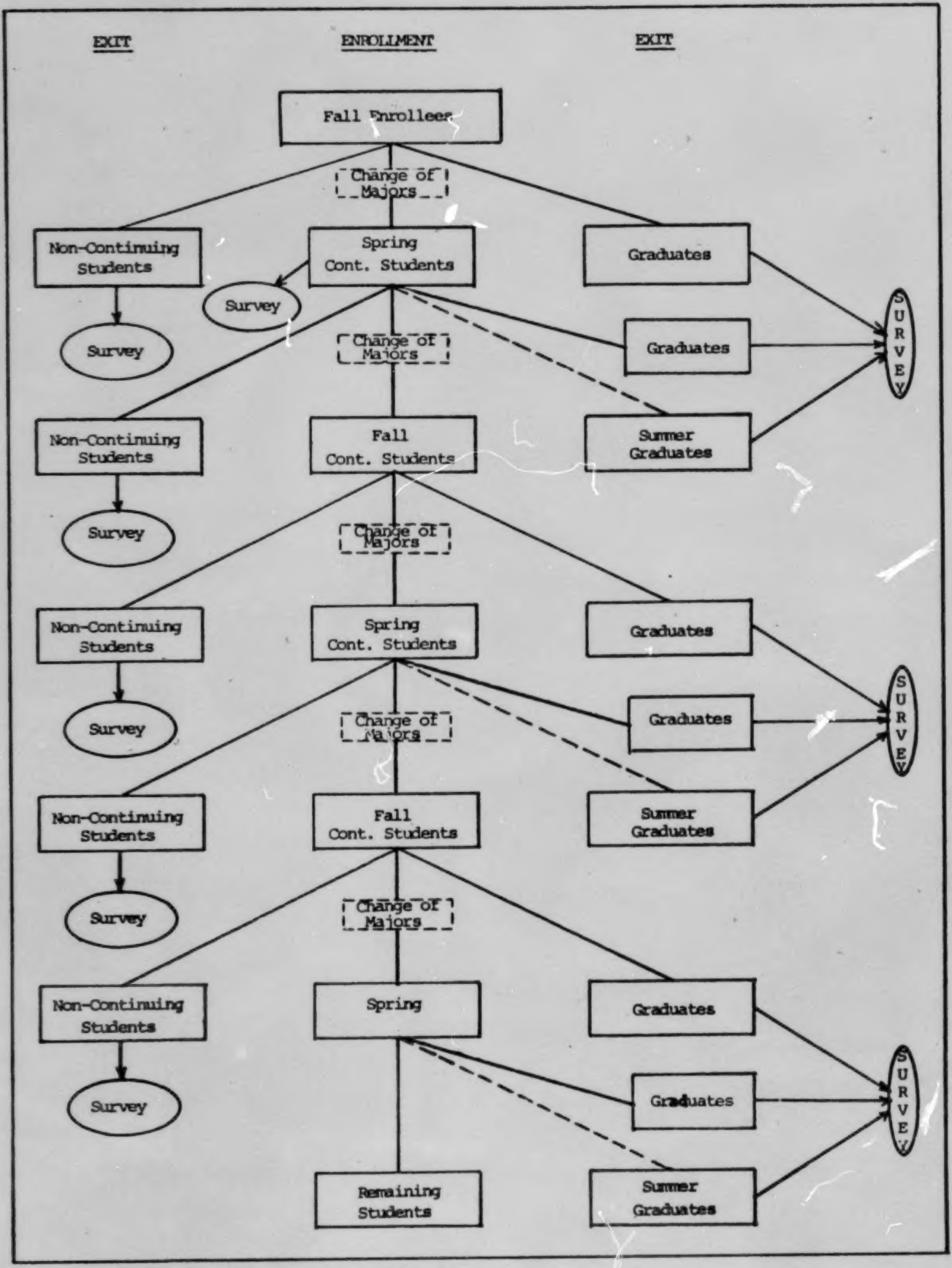
Each fall semester, the University of Hawaii conducted a survey of students who graduated in the preceding year, including those of the seven community colleges. Data were available for students who graduated in 1975-76, 1976-77 and 1977-78. From this pool, we selected graduates who entered the community colleges in Fall 1975 and summarized data on their post-graduation activities and their evaluations of their community college experience.

C. Organization of the Report

The initial sections present the findings of our six-semester study of Fall 1975 entering students: characteristics of enrollees and no shows, progression patterns each semester, persistence patterns at the end of six

FIGURE 4

THE ENROLLMENT AND EXIT COMPONENTS


EXIT
ENROLLMENT
EXIT
Fall Enrollees
Change of Majors
Non-Continuing Students
Spring Cont. Students
Graduates
Survey
Survey
Change of Majors
Graduates
SURVEY
Non-Continuing Students
Fall Cont. Students
Summer Graduates
Survey
Change of Majors
Non-Continuing Students
Spring Cont. Students
Graduates
Survey
Change of Majors
Graduates
SURVEY
Non-Continuing Students
Fall Cont. Students
Summer Graduates
Survey
Change of Majors
Non-Continuing Students
Spring
Graduates
Survey
Graduates
SURVEY
Remaining Students
Summer Graduates

semesters, characteristics of non-continuing students and graduates. In addition is a section on identifying the potential dropout.

Although the text generally summarizes our findings for the community colleges as a whole, campus data are occasionally presented to illustrate variations among the seven community colleges. Tables in the Appendix present data, by campus, in order to make this a convenient source of reference. Campus personnel interested in the details of a particular phase of the Student Flow Project should consult the appropriate report on that subject.

We reiterate that although an exhaustive search of the literature was not made, we sometimes refer to data in other studies primarily to show the variability in findings. Ideally, such comparisons should be minimal because we know that progression and persistence patterns are affected significantly by the characteristics of a particular group of entering students as well as by the character of the institution itself. For example, student flow at a highly selective college would probably be quite different from that at a non-selective campus. What would be desirable is comparison, over time, with the college's own data in previous studies. While we are not able to do this now, our findings can serve as baseline information for future student flow investigations.

We conclude with a summary of major findings and some recommendations regarding the use of student flow data for campus planning and evaluation in the instructional area as well as in student services. We also propose that student flow studies be conducted periodically and suggest specific components that should be included.

II. ENTERING STUDENTS AND "NO SHOWS"

Of the 13,631 students who applied for admission in Fall 1975, 12,505 (92 percent) were admitted by the community colleges, and of that number 8,979 (72 percent) actually enrolled. Data in Figures 5 and 6 show that higher proportions of new students, compared to transfers, were admitted and actually enrolled. Among new students, registration rates were 74 percent for both liberal arts and vocational education majors. Higher percentages of males, than females, were admitted and registered. (See Appendix A for campus details.)

FIGURE 5
APPLICANTS, ADMITTEES AND REGISTRANTS
NEW AND TRANSFER STUDENTS, BY SEX

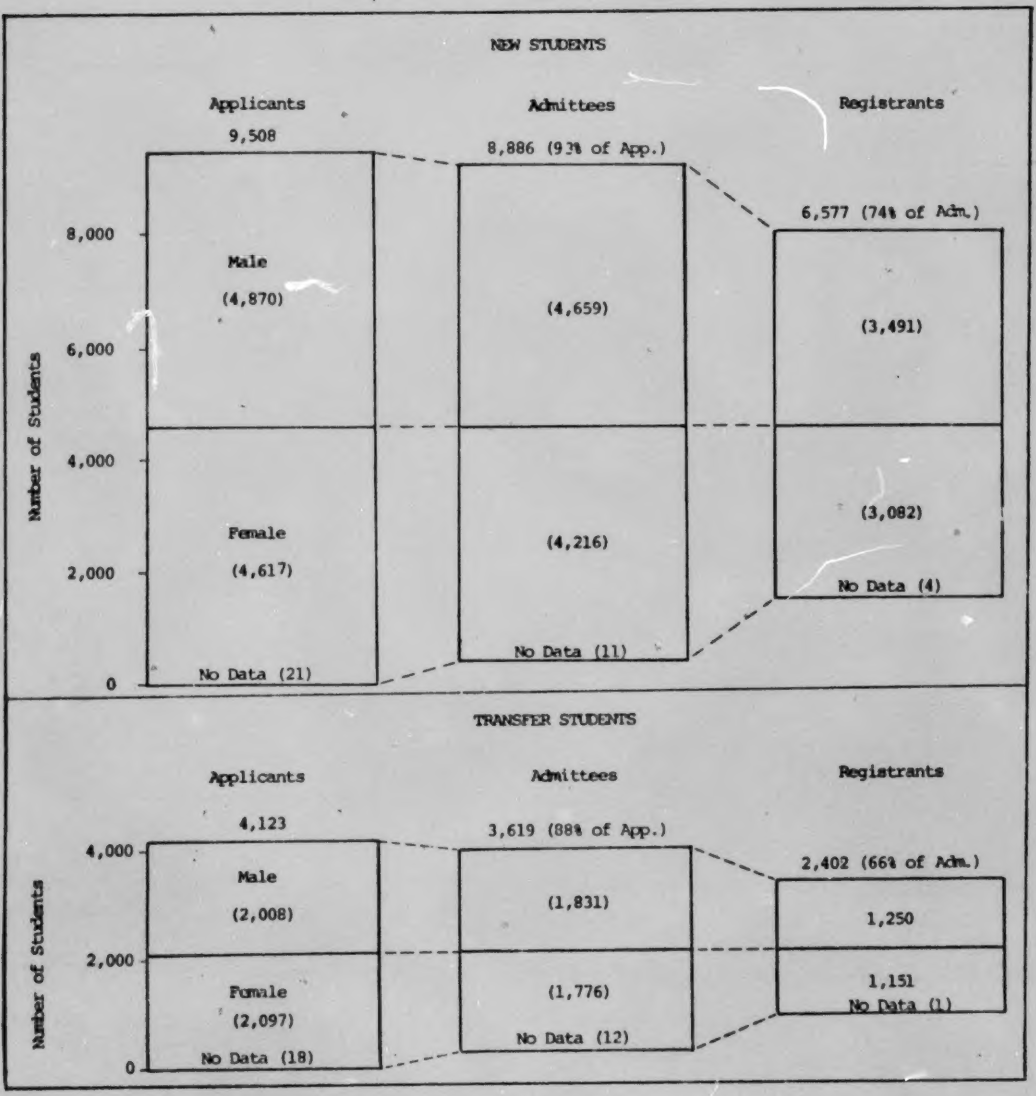
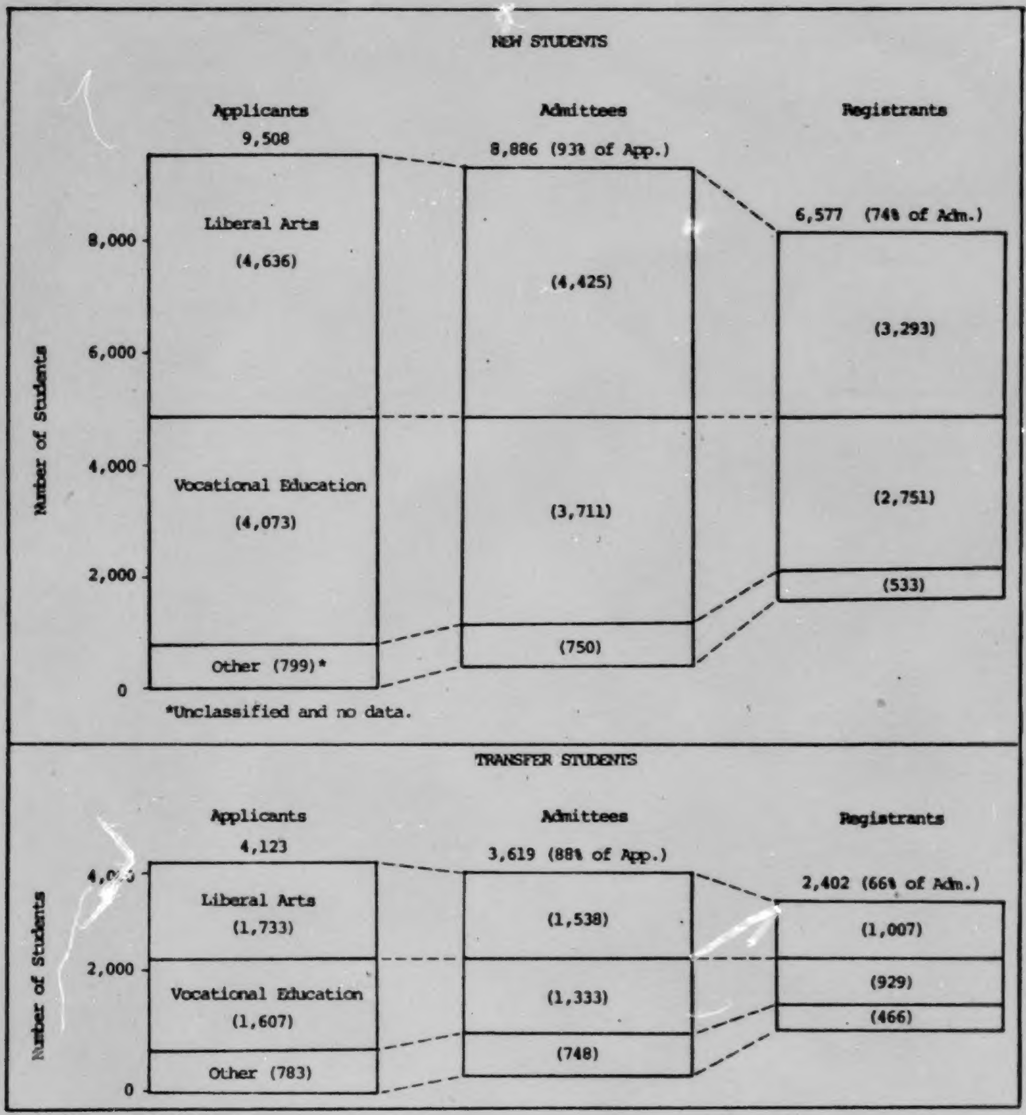


FIGURE 6
APPLICANTS, ADMITTEES AND REGISTRANTS
NEW AND TRANSFER STUDENTS, BY PROGRAM



We used chi-square analysis in evaluating the differences between applicants and admittees, between admittees and registrants and between applicants and registrants. Among new students, there were statistically significant differences between applicants and admittees and applicants and registrants, by sex: there were greater proportions of men than women who were admitted and who enrolled. There were no significant differences among the groups based on program. Among transfers, there were statistically significant differences between applicants and admittees, admittees and registrants, applicants and registrants, by sex. Greater proportions of males than females were accepted and actually enrolled. There was also a significant difference, by program, between applicants and admittees: fewer vocational education majors were admitted than liberal arts students.

A. Entering Students

Of the 8,979 entering students, 73 percent were students new to higher education, slightly over half were male and almost a half majored in the liberal arts (Table 1). The popular vocational education programs were business education and technology. Campuses which each enrolled at least a fifth of the entering students were Leeward, Kapiolani and Honolulu.

TABLE 1

ENROLLMENT, BY SEX, CAMPUS AND PROGRAM

Characteristics	Total[a]		New		Transfer	
	No.	V%	No.	V%	No.	V%
TOTAL	8,979	100%	6,577	100%	2,402	100%
Male	4,742	53%	3,492	53%	1,250	52%
Female	4,234	47%	3,083	47%	1,151	48%
Hawaii CC	748	8%	600	9%	148	6%
Honolulu CC	1,831	20%	1,313	20%	518	22%
Kapiolani CC	1,997	22%	1,457	22%	540	23%
Kauai CC	485	5%	334	5%	151	6%
Leeward CC	2,573	29%	1,948	30%	625	26%
Maui CC	816	9%	560	9%	256	11%
Windward CC	529	6%	365	6%	164	7%
Liberal Arts	4,300	48%	3,293	50%	1,007	42%
Vocational Education	3,680	41%	2,751	42%	929	39%
Business	(1,500)	(17%)	(1,148)	(18%)	(352)	(15%)
Education	(43)	(1%)	(29)	(<1%)	(14)	(1%)
Health Svcs.	(273)	(3%)	(141)	(2%)	(132)	(6%)
Hotel/Food Svcs.	(203)	(2%)	(167)	(3%)	(36)	(2%)
Public Svcs.	(450)	(5%)	(303)	(5%)	(147)	(6%)
Technology	(1,211)	(14%)	(963)	(15%)	(248)	(10%)
Unclassified/Special	999	11%	533	8%	466	19%

[a] Omits "no data" for sex (3).

B. "No Shows"

"No shows" are students who were admitted by the community colleges but did not register in Fall 1975. The 3,240 no shows were sent a simple questionnaire in October 1975 requesting information on their reasons for not enrolling.[1] There were 2,125 respondents (66 percent rate of return).

Respondents and non-respondents were compared on entry status (new or transfer), sex and program (liberal arts, vocational education or unclassified) to test for representativeness. No significant differences were found.

Data in Table 2 show that the three most commonly cited reasons for not enrolling were: work (28 percent), "other" reasons (24 percent) and attendance at another school (19 percent). Frequently listed among "other" reasons were the unavailability of desired programs or courses (268) and change in plans (235). Reasons for not enrolling, by campus, are found in Appendix B.

TABLE 2

REASONS FOR NOT ENROLLING[a]
SURVEY OF FALL 1975 NO SHOWS

Note: Total exceeds the number of no shows because they could check more than one reason.

Characteristics	Total		Other School		Work		Military		Financial		Health		Other[b]	
	No.	H%	No.	H%	No.	H%	No.	H%	No.	H%	No.	H%	No.	H%
TOTAL	2,458	100%	469	19%	699	28%	103	4%	250	10%	349	14%	588	24%
BY ENTRY STATUS***														
New	1,622	100%	300	19%	475	29%	89	5%	156	10%	229	14%	373	23%
Transfer	836	100%	169	20%	224	27%	14	2%	94	11%	120	14%	215	26%
BY SEX***														
Male	1,233	100%	224	18%	386	31%	90	7%	121	10%	136	11%	276	22%
Female	1,215	100%	241	20%	312	26%	13	1%	128	11%	210	17%	311	26%
No Data	10	100%	4	40%	1	10%	0	0%	1	10%	3	30%	1	10%
BY PROGRAM***														
Liberal Arts	1,041	100%	256	25%	255	25%	44	4%	103	10%	150	14%	233	22%
Voc Ed	1,047	100%	166	16%	355	34%	54	5%	109	10%	138	13%	225	22%
Unclassified	370	100%	47	13%	89	24%	5	1%	38	10%	61	17%	130	35%

[a] Levels of significance, based on chi-square analysis, denoted thus:
* .05 ** .01 *** .001.

[b] Includes 268 who found that the program or course they desired was not available, 85 who changed their place of residence and 235 who had other plans.

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[1] Windward Community College was not included in this survey because it conducted its own study of no shows.

There were statistically significant differences in reasons for not enrolling, by sex, by program and by entry status. For example, greater proportions of males (31 percent) than females (26 percent) cited "work" as their reason for not enrolling in Fall 1975. Far more liberal arts majors (25 percent) than vocational education students (16 percent) indicated they were attending another school.

Of the 469 no shows who were attending other schools, 450 indicated their college: 181, another campus of the University of Hawaii; 137, other educational institutions in Hawaii; 132, Mainland institutions.

It is noteworthy that slightly over half of the no shows were actively engaged in work, attendance at another school or military service. Of some concern are the 250 who cited financial reasons and the 268 who indicated the unavailability of the programs or courses they desired.

III. ENROLLED STUDENTS

This section presents data on enrolled students during each of the five semesters after entry in Fall 1975. In addition are findings on the extent to which enrolled students carried full-time loads (12 credits or more per semester), completed their credits and changed their majors. Discussion is limited to findings for the community colleges as a whole; campus data are presented in Appendix C.

A. Registration Rates

One of the assumptions we made at the outset of our study was that community college graduates would leave their campuses after graduation. We found, however, that graduates continue to enroll at their campus of entry after graduation, so we altered our procedures to include returning graduates as part of "potential registrants." For example, there were 8,979 entering students in Fall 1975; 13 graduated at the end of that semester; 8 were returning and 5 were non-returning graduates in Spring 1976. In calculating the registration rate for that semester, the number of enrolled students (6,503) is divided by the 8,974 (not 8,966) potential registrants. The result shows that 72 percent of the potential registrants enrolled at their campus of entry in Spring 1976. We also found that 140 students left their campus of entry and registered at another community college in the University of Hawaii System. This raises the registration rate for the community colleges as a whole to 74 percent while that, by campus of entry, is 72 percent as indicated earlier.

Data in Table 3 show that at the beginning of the second year, a half of the students did not enroll. Specifically, 48 percent of potential registrants were enrolled at their campus of entry, and 4 percent were attending another community college of the University of Hawaii. During

TABLE 3

REGISTRATION RATES FOR THE COMMUNITY COLLEGE SYSTEM

Semester	Potential Registrants	Registered					
		Total		Campus of Entry		Another Campus	
		No.	Rate[a]	No.	Rate	No.	Rate
Spring 1976	8,974	6,643	74%	6,503	72%	140	2%
Fall 1976	8,898	4,632	52%	4,308	48%	324	4%
Spring 1977	8,834	4,000	45%	3,653	41%	347	4%
Fall 1977	8,423	2,698	32%	2,342	28%	356	4%
Spring 1978	8,248	2,172	26%	1,784	22%	388	5%

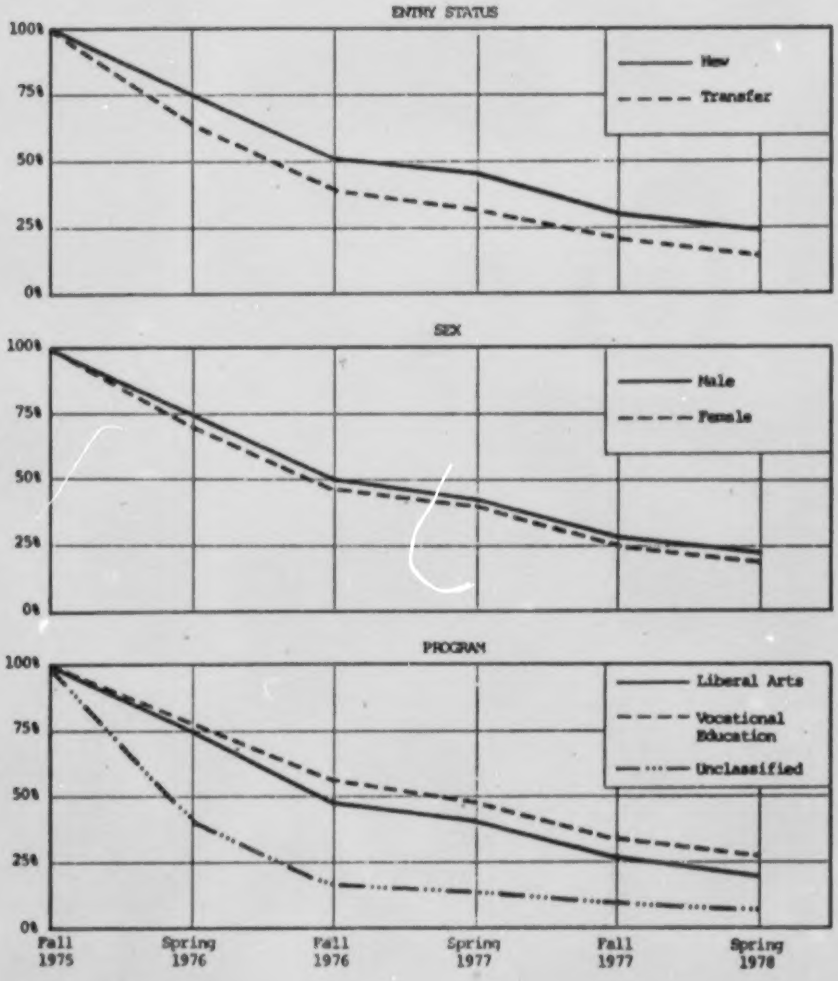
[a] May not equal the sum of its parts because of rounding.

the sixth semester a fourth of the potential registrants enrolled; the rates were 22 percent, by campus of entry, and 26 percent for the community colleges as a whole. Generally, 4 percent of potential registrants enrolled at a campus other than the one of entry.

Registration rates were analyzed in terms of several student characteristics--entry status, sex and program. Figure 7 shows that registration rates for each of the five semesters were higher for new students, male students and vocational education majors. For new students, technology majors had the highest registration rates; for transfers, hotel/food services majors were in the lead (Appendix C).

FIGURE 7

REGISTRATION RATES, BY ENTRY STATUS, SEX AND PROGRAM


ENTRY STATUS

SEX

PROGRAM

B. Continuing Students

Among the registered students were continuing students--those who had been in attendance for all previous semesters. The data in Table 4 show the proportion of continuing students in each semester, declining from 100 percent in Spring 1976 to 67 percent in Spring 1978. "Stop-outs" are students who had a break in attendance at their college of entry, and they comprised a third of all enrolled students in the sixth semester.

TABLE 4

NATURE OF ENROLLED STUDENTS

Semester	Enrolled Students	Continuing Students		Stop-Outs	
		No.	H%	No.	H%
Fall 1975	8,979	--	--	--	--
Spring 1976	6,503	6,503	*100%*	--	--
Fall 1976	4,308	4,157	*96%*	151	*4%*
Spring 1977	3,653	3,302	*90%*	351	*10%*
Fall 1977	2,342	1,844	*79%*	498	*21%*
Spring 1978	1,784	1,204	*67%*	580	*33%*

Each semester the characteristics of students who continued their enrollment at their campus of entry were compared to those who did not. Statistically significant differences were found in the continuation rates of students on the following six characteristics in all of the semesters for which data were available: age, full-/part-time status, program, educational objective, grade point average and credit-completion ratio. In general, continuation rates were very high, during each of the five semesters, for students who:

- entered at either below 19 or over 29 years
- carried full-time loads
- majored in vocational education, especially in technology (see Table 5)
- sought A.S. degrees
- had grade point averages of 2.0 to 2.9 or 3.0 to 3.4
- completed between .90 to .99 of the credits attempted

TABLE 5

CONTINUATION RATES, BY PROGRAM

Program	Spring 1976 Continuing		Fall 1976 Continuing		Spring 1977 Continuing		Fall 1977 Continuing		Spring 1978 Continuing	
	Studs.	Rate	Studs.	Rate	Studs.	Rate	Studs.	Rate	Studs.	Rate
TOTAL	6,503	72%	4,157	64%	3,302	80%	1,844	67%	1,204	76%
Liberal Arts	3,173	75%	1,916	62%	1,466	78%	831	61%	538	72%
Business	1,216	77%	862	68%	711	81%	452	77%	287	81%
Health Svcs.	224	82%	123	52%	113	93%	22	51%	18	72%
Hotel/Food Svcs.	167	77%	114	68%	99	83%	64	72%	44	77%
Public Svcs.	380	75%	258	65%	199	77%	119	69%	75	70%
Technology	966	78%	745	77%	626	84%	317	76%	219	82%
Unclassified	377	41%	139	42%	87	66%	39	47%	23	59%
No Data					1					

The continuing student emerges as one who is a recent high school graduate (especially of public, Neighbor Island schools), seeking an A.S. degree in vocational education (particularly in technology), carrying at least 12 credits per semester, completing at least 90 percent of them and earning a grade point average of at least C.[1]

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[1] In contrast is the picture of the non-continuing student: female, 22-24 years old at entry, married, graduate of Mainland high schools, part-time, unclassified student with grade point average below C and credit-completion ratio below half.

C. Full-Time Rates

During all six semesters, higher proportions of new students than transfers were classified as full-time students because they carried loads of 12 or more credits. There was a range of full-time rates during the six semesters. Among new students, for example, 71 percent were full-time students in Fall 1976 as were 55 percent in Spring 1978 (Appendix C).

Other data show that the full-time rates were higher for:

- men than women among transfer students in each of the six semesters.
- vocational education majors than liberal arts and unclassified students among both new and transfer students for the first two semesters only. Majors in technology and health services generally had the highest full-time rates.

Specifically, the data show the following ranges in full-time rates for new and transfer students during the six semesters:

	New Students		Transfer Students	
	Highest	Lowest	Highest	Lowest
Male	71%	54%	65%	43%
Female	71%	55%	55%	34%
Liberal Arts	74%	56%	63%	39%
Vocational Education	75%	55%	66%	44%
Unclassified	24%	11%	21%	11%

D. Credit-Completion Ratios

The credit-completion ratio (CCR) shows the relationship between "credits completed" and "credits attempted." For example, if a student carries 15 credits and completes 12, his CCR is .80 as would be true of a student who carries 5 and completes 4 credits.

Transfer students generally had slightly higher CCRs than new students. While transfer students completed about three-fourths of their credits, new students completed slightly less. Among both new and transfer students, higher CCRs were generally found among females than males and among vocational education majors than liberal arts or unclassified students. Among new students, the CCRs were generally highest for majors in health services; among transfers, for students in hotel/food services.

The range in average number of credits attempted and completed is given below:

	New Students	Transfer Students
Credits Attempted		
Highest	12.4 (F 1976)	11.1 (Sp 1976, F 1976)
Lowest	10.6 (Sp 1978)	9.2 (F 1977, Sp 1978)
Credits Completed		
Highest	9.3 (Sp 1977)	8.5 (Sp 1977)
Lowest	7.8 (Sp 1978)	7.0 (F 1975, F 1977, Sp 1978)

New students, on the average, attempted and completed a larger number of credits than transfers, but the latter had higher CCRs, as indicated earlier.

E. Changes of Major

During the three years in which the 8,979 entering students were studied, 2,013 (22 percent) changed their majors; 1,514 were students new to higher education and 499 were transfer students. The data in Table 6 show that among students who changed majors:

- 53 percent were males
- 31 percent had Kapiolani Community College as their campus of entry
- 88 percent changed from one major to a new one (rather than from "unclassified" to a major)

An analysis was also made of the number of times majors were changed because some students changed majors more than once. In all, 2,649 changes of major were made. About half of the changes were made in the second and third semesters (Table 7).

Figure 8 shows the nature of changes of major. Far more students left the liberal arts program (941) than entered it (557). Vocational education programs attracted 768 former liberal arts and 125 "other" students for a total of 893. In addition, there were 877 changes from one vocational education program to another; e.g., from business to nursing or from accounting to secretarial science. These changes had the following net effect:

- liberal arts had a net loss of 384
- vocational education had a net gain of 347
- "other" students had a net gain of 37

TABLE 6

STUDENTS WHO CHANGED THEIR MAJORS

Characteristics	Total		New Students		Transfer Students	
	No.	V%	No.	V%	No.	V%
TOTAL	2,013	*100%*	1,514	*100%*	499	*100%*
Sex[a]						
Female	949	*47%*	714	*47%*	235	*47%*
Male	1,063	*53%*	799	*53%*	264	*53%*
Campus of Entry						
Hawaii CC	175	*9%*	138	*9%*	37	*7%*
Honolulu CC	425	*21%*	303	*20%*	122	*25%*
Kapiolani CC	633	*31%*	475	*31%*	158	*32%*
Kauai CC	115	*6%*	83	*6%*	32	*6%*
Leeward CC	401	*20%*	309	*20%*	92	*18%*
Maui CC	204	*10%*	163	*11%*	41	*8%*
Windward CC	60	*3%*	43	*3%*	17	*3%*
Type of Change						
Major to new major	1,780	*88%*	1,392	*92%*	388	*78%*
Unclassified to major	233	*12%*	122	*8%*	111	*22%*

[a] No data, 1.

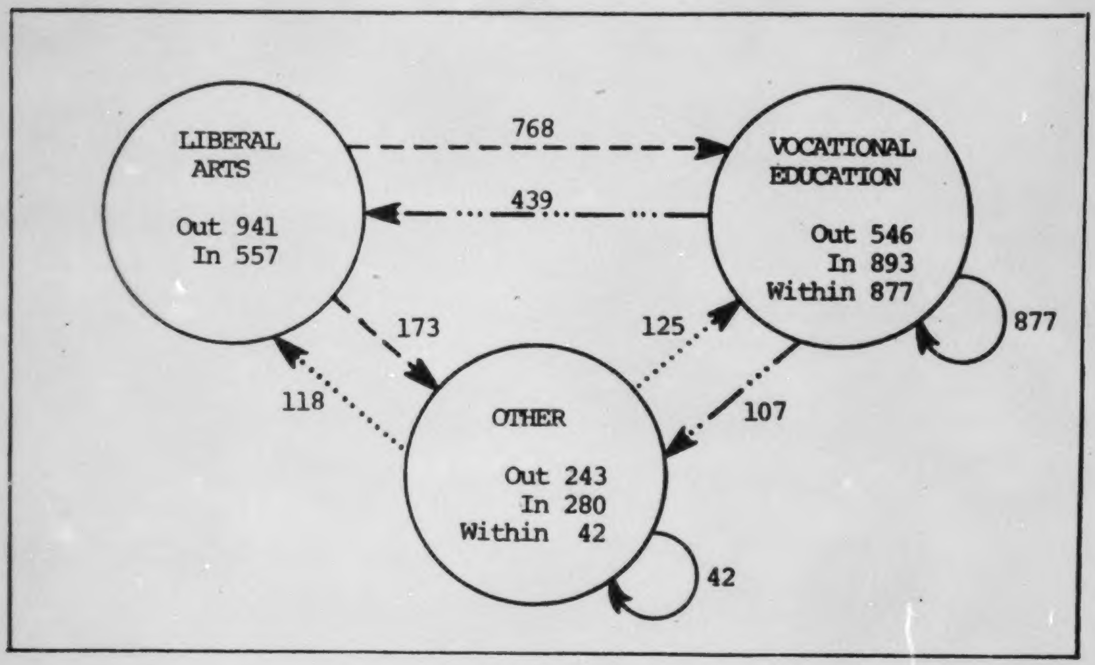
TABLE 7

SEMESTER IN WHICH CHANGES OF MAJOR WERE MADE

Semester of Change	Total		New Students		Transfer Students	
	No.	V%	No.	V%	No.	V%
TOTAL	2,649	*100%*	2,007	*100%*	642	*100%*
Spring 1976	690	*26%*	514	*26%*	176	*27%*
Fall 1976	610	*23%*	464	*23%*	146	*23%*
Spring 1977	420	*16%*	316	*16%*	104	*16%*
Fall 1977	522	*20%*	410	*20%*	112	*18%*
Spring 1978	407	*15%*	303	*15%*	104	*16%*

FIGURE 8

NATURE OF CHANGES OF MAJOR


LIBERAL ARTS
Out 941
In 557
768
439
VOCATIONAL EDUCATION
Out 546
In 893
Within 877
877
173
125
118
107
OTHER
Out 243
In 280
Within 42
42

F. Concluding Comment

The fact that half of Hawaii's entering students did not continue their community college enrollment in the second year is similar to the finding reported by James Thornton: nationally, about half of full-time freshmen in Fall 1966, 1967 and 1968 became full-time sophomores the following year in the community colleges.[2] Alexander Astin surveyed 1966 entering students in a representative sample of institutions four years after entry and found that 66 percent returned for the second year in the community colleges.[3] This rate is higher than that reported by Lightfield in summarizing enrollment tracking at Mercer County Community College in New Jersey: he found 54 percent of Fall 1972 entering students enrolled in the second year.[4] All these statistics show variations in registration rates in different institutions and in different years. This is not surprising because the literature on attrition theory indicates that both student characteristics and institutional environment as well as their interaction have important relationships to student retention and attrition.

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[2] James W. Thornton, Jr., The Community Junior College, Third Edition, (New York: John Wiley and Sons, 1972), p. 150.

We found that vocational education majors, in comparison with liberal arts students, had higher registration rates and higher credit-completion ratios. The lower rates for liberal arts students, especially for registration, are not unexpected for these students are able to transfer to other four-year institutions with or without associate degrees.

Another result, not surprising, was that males had higher registration rates than females. To some extent, this may be because marriage and home responsibilities have less effect on the abandonment or lowering of educational aspirations by males. Astin likewise concluded that: "Being married at time of college entry increases women's chances of dropping out by about 11 percent, but it decreases men's chances by about 8 percent. Here again is striking evidence of the differential effects of marriage on men and women."[5]

Changes of major were made by 22 percent (2,013) of the 8,979 students who entered the community colleges in Fall 1975. As a result of these changes, the number of students in vocational education programs increased. The fact that close to 900 students changed from one vocational education program to another vocational education program is noteworthy. These changes may partially be explained by the current interest in and growing appreciation of career education.

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[3] Alexander W. Astin, College Dropouts: A National Profile (Washington, D. C.: American Council of Education, February 1972), p. 10.

[4] Timothy Lightfield, "They Do Come Back; Enrollment Tracking at the Community College" in Information for Decisions in Postsecondary Education, 15th Annual Forum of the Association for Institutional Research (St. Louis, Missouri, 1975), p. 254.

[5] Astin, Preventing Students from Dropping Out, op. cit., p. 45.

IV. NON-CONTINUING STUDENTS

Each semester students who failed to return to their campus of entry were polled when they first dropped out. For example, if a student enrolled in Fall 1975 did not graduate and failed to return in Spring 1976, he was polled in that semester.

The purposes of the non-continuing student surveys were to obtain information on: (a) the reasons for non-continuance, (b) the activities of non-continuing students during their initial semester of dropping out, (c) the educational plans of these students in subsequent semesters and (d) evaluations of their community college experience.

Before discussing the results of the five non-continuing student surveys as a whole, the characteristics of non-continuing students are briefly summarized.

A. Characteristics of Non-Continuing Students

During the five semesters following Fall 1975 entry, there were 6,418 non-continuing students or dropouts. They were predominently male (53 percent), below 22 years old at entry (57 percent) and single (71 percent). The great majority (71 percent) entered the community colleges as students new to higher education. About a half graduated from public, Oahu, high schools (49 percent), were liberal arts majors (50 percent) and had earned a cumulative total of fewer than 13 credits before dropping out (51 percent) and a cumulative grade point average below C (45 percent). As expected, the largest number dropped out after the first (38 percent) and second (32 percent) semesters.

B. Results of Non-Continuing Student Surveys

Although a total of 6,418 non-continuing students were polled during the five semesters, only 41 percent (2,641) responded. The return rates ranged from 48 percent of non-continuing students in Spring 1978 to 36 percent of those in Spring 1976. Differences in these rates, by semester, were statistically significant.[1]

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[1] Detailed reports on the results of each of the five surveys are available (Student Flow Project, Report No. 9, 17, 25, 33 and 40), and Report No. 42 summarized the data for the five semesters.

1. Nature of Respondents

The characteristics of respondents and non-respondents were compared to obtain information on representativeness. Although statistically significant differences between respondents and non-respondents were found on six characteristics (sex, age at entry, high school background, cumulative credits earned, cumulative grade point average and campus), no differences were found on marital status, entry status, program and educational objective.

A comparison of the respondents during each of the five semesters, on these four characteristics, showed statistically significant differences. For example, 72 percent of the non-continuing students who responded to the surveys were single students, ranging from four-fifths of the respondents in Fall 1977 to two-thirds of those in Fall 1976. To elaborate further on these differences, the range in proportions is given below for the remaining three characteristics:

Characteristics[2]	Total Respondents	Range	
Entry Status***			
New	70%	82% (Fall 1977)	62% (Spring 1976)
Program***			
Liberal Arts	51%	66% (Fall 1977)	43% (Spring 1978)
Educational Objective***			
Associate of Arts	51%	66% (Fall 1977)	43% (Spring 1976)

About three-fourths of the respondents had worked in the semester previous to dropping out: 32 percent, full-time and 40 percent, part-time. The remaining 28 percent had not been employed while attending college. Non-continuing students, by program, differed significantly. To elaborate: the range for no employment was 47 percent (health services) to 16 percent (public services).

Respondents were also queried regarding their educational plans in the semester following dropout. Slightly over half (54 percent) indicated they planned to return to college. The remaining were either not sure about their educational plans (34 percent) or did not intend to continue their education (12 percent). There were significant differences among respondents, by program. For example, the proportions with plans to return to college ranged from 65 percent (liberal arts) to 33 percent (health services).

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[2] Levels of significance, based on chi-square analysis, denoted thus: * .05 ** .01 *** .001.

2. Reasons for Dropping Out[3]

Respondents in the five semesters differed significantly in their reasons for not continuing their enrollment. The data in Table 8 show that 21 percent transferred to another institution, 14 percent preferred to work and 16 percent found that the class they desired was not available. The remaining had personal (11 percent), financial (10 percent) and other reasons. Nearly half of Fall 1977 respondents indicated transfer to another institution as their reason for dropping out of their community college.

TABLE 8

REASONS FOR NOT CONTINUING ENROLLMENT, BY SEMESTER
COMMUNITY COLLEGE SYSTEM

Note: Percentages based on number of responses.

Reason	Total		Sp 1976[a]		F 1976		Sp 1977		F 1977		Sp 1978	
	No.	V%	No.	V%	No.	V%	No.	V%	No.	V%	No.	V%
Total responses	2,937	*100%*	1,183	*100%*	877	*100%*	352	*100%*	366	*100%*	159	*100%*
Achieved/changed goal	250	*9%*	65	*5%*	94	*11%*	39	*11%*	30	*8%*	22	*14%*
Transfer	621	*21%*	134	*11%*	206	*23%*	65	*18%*	167	*46%*	49	*31%*
Prefer to work	412	*14%*	157	*13%*	132	*15%*	56	*16%*	49	*13%*	18	*11%*
Financial reasons	308	*10%*	148	*13%*	107	*12%*	23	*7%*	22	*6%*	8	*5%*
Class unavailable	461	*16%*	202	*17%*	130	*15%*	66	*19%*	44	*12%*	19	*12%*
Academic reasons[b]	185	*6%*	140	*12%*	--	--	22	*6%*	12	*3%*	11	*7%*
Personal reasons	328	*11%*	153	*13%*	86	*10%*	41	*12%*	25	*7%*	23	*14%*
Other	372	*13%*	184	*16%*	122	*14%*	40	*11%*	17	*5%*	9	*6%*

Significance = 0.000

[a] Only in Spring 1976 were respondents encouraged to identify more than one reason for not continuing their enrollment.

[b] Includes: "little interest in studies," "studies too difficult" and "disappointed with campus."

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[3] See Appendix D for data, by campus, on this and subsequent items in the Non-Continuing Student Surveys.

To show the variety in reasons for dropping out among students in different programs, Table 9 was prepared. Two-fifths of health services majors did not continue their enrollment because they had achieved or changed their goals. Among liberal arts students, transfer to another institution was cited by about a third of the respondents as their reason for exit. Preference for work was the top reason for business, hotel/food services and technology majors, while the unavailability of desired classes was selected most often by public services and unclassified students.

TABLE 9

REASONS FOR NOT CONTINUING ENROLLMENT, BY PROGRAM

Note: Percentages based on number of responses.

Reason	Liberal Arts		Business		Health Svcs.		H/Food Svcs.		Pub. Svcs.		Technology		Uncl.	
	No.	V%	No.	V%	No.	V%	No.	V%	No.	V%	No.	V%	No.	V%
Total responses	1,500	100%	501	100%	77	100%	62	100%	141	100%	310	100%	343	100%
Achieved/changed goal	79	5%	35	7%	31	40%	5	8%	16	11%	30	10%	54	16%
Transfer	480	32%	52	10%	5	6%	7	11%	12	9%	41	13%	24	7%
Prefer to work	179	12%	99	20%	6	8%	12	19%	17	12%	64	21%	35	10%
Financial reasons	147	10%	68	14%	4	5%	10	16%	16	11%	36	12%	27	8%
Class unavailable	221	15%	61	12%	5	6%	7	11%	31	22%	55	18%	80	23%
Academic reasons	80	5%	52	10%	4	5%	8	13%	4	3%	18	6%	18	5%
Personal reasons	153	10%	72	14%	11	14%	6	10%	20	14%	27	9%	39	11%
Other	161	11%	62	12%	11	14%	7	11%	25	18%	39	12%	66	19%

Significance = 0.0

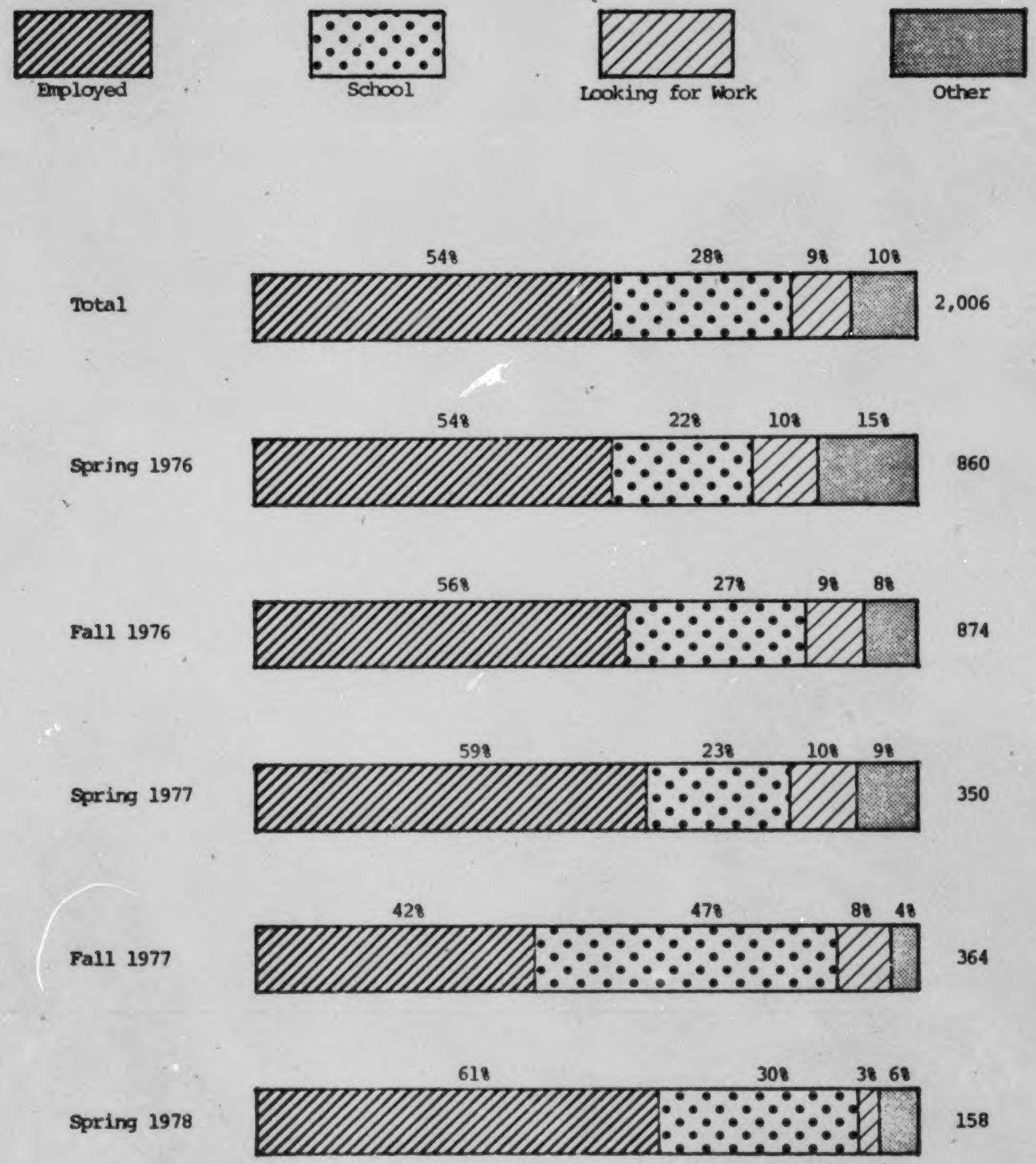
3. Current Activities

Non-continuing students were asked to indicate what they were doing during the semester they discontinued their enrollment at their campus of entry. Work was the dominant activity during each of the five semesters. Over half of all respondents (54 percent) were working and over a fourth (28 percent) were attending another college. This means that over three-fourths of the respondents were actively engaged. The remaining were either looking for work (9 percent) or absorbed in other activities (10 percent), such as military service and home responsibilities. Also included in this group were some students who indicated their decision to stop out for a semester.

Figure 9 illustrates the activities of respondents for each semester as well as for the total. Work was the chief activity especially in Spring 1978, and attendance at another school was the leading activity in Fall 1977.

FIGURE 9

ACTIVITIES OF NON-CONTINUING STUDENTS



As expected, there were statistically significant differences in the activities of non-continuing students, by program. The data in Table 10 show that:

- work was the dominant activity for students in all programs, but the proportion for public services majors (74 percent) far exceeded that of non-continuing students in other programs.
- transfer to another college was a common activity for liberal arts students (40 percent) in sharp contrast to the activities of other non-continuing students.
- the unemployment rate varied among the programs and ranged from 17 percent for hotel/food services to 5 percent for unclassified students.

TABLE 10

ACTIVITIES OF NON-CONTINUING STUDENTS, BY PROGRAM

Activity	Total[a]	Liberal Arts	Business	Health Svcs.	H/Food Svcs.	Public Svcs.	Technology	Other
TOTAL	2,604	1,343	436	71	52	136	271	295
Work	54%	45%	66%	68%	58%	74%	61%	60%
School	28%	40%	15%	7%	19%	11%	16%	14%
Looking for work	9%	7%	10%	14%	17%	10%	15%	5%
Other	10%	8%	10%	11%	6%	6%	9%	22%

Significance = 0.0

[a] Omits two students whose program was not known.

4. Students Who Worked

Although 1,408 non-continuing students indicated that they were working, approximately 1,300 provided details on their employment. Of those who did, about seven-tenths were working full-time, and about a third each were employed in clerical/sales or service occupations (Table 11). There were no statistically significant differences on the work status and occupation of employed dropouts, by program.

TABLE 11

NON-CONTINUING STUDENTS WHO WERE WORKING, BY PROGRAM

Item[a]	Total	Liberal Arts	Business	Health Svcs.	H/Food Svcs.	Public Svcs.	Technology	Other
WORK STATUS	1,289	545	264	44	27	95	149	165
Full-time	69%	66%	75%	75%	63%	74%	62%	72%
Part-time	31%	34%	25%	25%	37%	26%	38%	28%
OCCUPATION[b]	1,287	550	266	46	28	88	148	161
Prof/Tech/Mgl	14%	10%	11%	9%	7%	14%	10%	36%
Clerical/Sales	34%	38%	57%	15%	18%	9%	19%	23%
Service	33%	31%	20%	72%	68%	64%	32%	29%
Machine Trades, Bench Work, Structural Work	9%	10%	3%	2%	0%	8%	23%	4%
Other	11%	12%	9%	2%	7%	6%	17%	8%
JOB/STUDIES REL.***	1,278	535	264	44	27	92	151	165
Closely related	29%	16%	35%	82%	59%	53%	29%	32%
Somewhat related	29%	30%	36%	7%	22%	21%	22%	28%
Not related	42%	54%	29%	11%	19%	26%	50%	40%

[a] Levels of significance, based on chi-square analysis, denoted thus:
* .05 ** .01 *** .001.

[b] Occupations are based on U. S. Department of Labor's *Dictionary of Occupational Titles*. The "other" category includes farming, fishing and forestry; processing and miscellaneous.

Employed students were also asked to indicate the relationship between their jobs and their community college studies. Equal proportions--29 percent each--indicated that both were "closely" or "somewhat" related. The remainder (42 percent) felt there was no relationship between their jobs and major fields of study. Not unexpected was the high proportion (54 percent) of liberal arts students who expressed that opinion; they tended to be heavily concentrated in clerical/sales and service occupations. The data in Table 11 also show that there was a significant difference, by program, on job/studies relationship. Especially high proportions of health services students (82 percent) felt that their jobs were closely related to their community college studies while only 16 percent of liberal arts students shared that sentiment.

5. Students Who Transferred

Slightly over 650 respondents transferred to other institutions, and the great majority (82 percent) became full-time students. Of those who furnished details on their institution, one-half were attending the University of Hawaii at Manoa and a fourth were at another community college in the University System (Table 12). Others went to out-of-state institutions (15 percent) or to other public and private colleges in Hawaii (9 percent). Non-continuing students, by program, differed significantly in the colleges they were attending. For example, over half of liberal arts students transferred to U.H. Manoa while about half of business and technology students transferred to other community colleges.

TABLE 12

NON-CONTINUING STUDENTS WHO TRANSFERRED TO OTHER COLLEGES, BY PROGRAM

Item[a]	Total	Liberal Arts	Business	Health Svcs.	H/Food Svcs.	Public Svcs.	Technology	Other
ENROLL. STATUS	658	503	57	5	8	15	36	34
Full-time	*82%*	*84%*	*75%*	(4)	(7)	(10)	*72%*	*68%*
Part-time	*19%*	*16%*	*25%*	(1)	(1)	(5)	*28%*	*32%*
COLLEGE***	664	514	56	5	7	14	33	35
Comm. Coll.	*25%*	*21%*	*47%*	(1)	(5)	(4)	*55%*	*14%*
U.H. Manoa	*51%*	*57%*	*21%*	(2)	--	(3)	*27%*	*63%*
Other Hawaii	*9%*	*8%*	*18%*	--	(1)	(2)	*12%*	*6%*
Out-of-state	*15%*	*14%*	*14%*	(2)	(1)	(5)	*6%*	*17%*

[a] Levels of significance, based on chi-square analysis, denoted thus:
* .05 ** .01 *** .001.

6. Evaluation of College Experience

Non-continuing students rated their college experience on several items, and eight were found in all five follow-up surveys. A three-point scoring was used to calculate mean scores for each item: 1(not satisifed), 2(satisfied), 3(very satisfied). The data in Table 13 show the mean

TABLE 13

EVALUATION OF COLLEGE EXPERIENCE BY NON-CONTINUING STUDENTS

Note: The data below are mean scores based on the following scoring: 1(not satisfied), 2(satisfied), 3(very satisfied). The total number of students (left corner) may differ from item to item because students did not respond to all items.

Item[a]	Total[b]	Liberal Arts	Business	Health Svcs.	Hotel/Food Svcs.	Public Svcs.	Technology	Other
Instruction***	2,479 *2.45*	1,286 *2.45*	418 *2.33*	71 *2.66*	52 *2.46*	132 *2.53*	251 *2.44*	267 *2.51*
Faculty/stud. rel.***	2,472 *2.49*	1,283 *2.50*	415 *2.34*	70 *2.60*	52 *2.48*	132 *2.49*	251 *2.54*	267 *2.66*
Course variety***	2,137 *1.97*	1,165 *1.93*	361 *1.97*	58 *2.34*	41 *2.15*	116 *2.08*	217 *2.06*	177 *1.85*
Intellectual environment	1,629 *2.22*	908 *2.21*	278 *2.16*	50 *2.24*	26 *2.38*	103 *2.26*	169 *2.28*	93 *2.23*
Counseling svcs.***	2,264 *2.19*	1,211 *2.14*	394 *2.15*	65 *2.38*	44 *2.25*	118 *2.17*	243 *2.37*	187 *2.21*
Student friendships***	2,091 *2.51*	1,135 *2.52*	354 *2.38*	61 *2.70*	39 *2.72*	112 *2.50*	219 *2.56*	169 *2.50*
Facilities/ equipment*	2,412 *2.26*	1,259 *2.23*	410 *2.25*	68 *2.16*	47 *2.45*	127 *2.32*	250 *2.37*	249 *2.25*
Total college experience	2,414 *2.41*	1,262 *2.41*	406 *2.33*	70 *2.56*	46 *2.54*	128 *2.39*	249 *2.43*	251 *2.45*

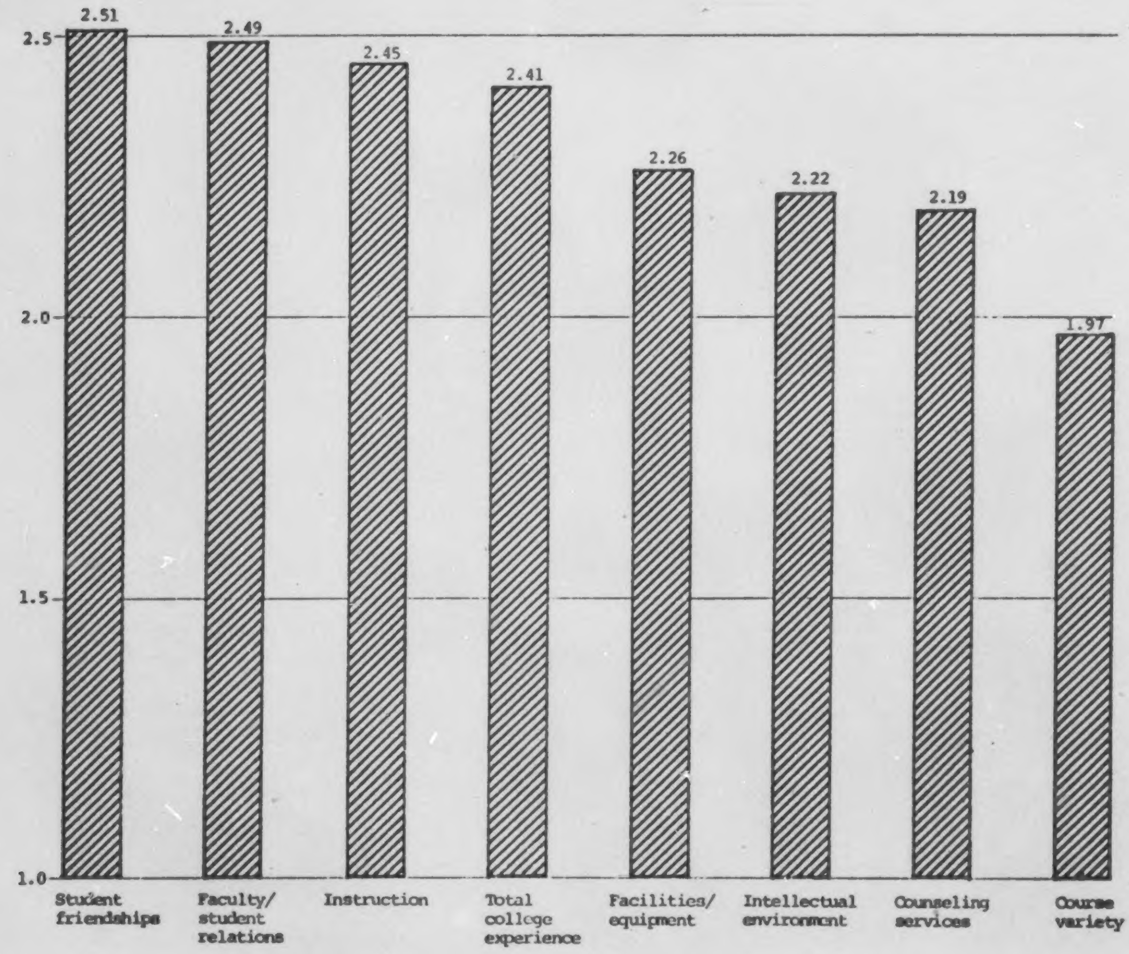
[a] Levels of significance, based on analysis of variance, denoted thus:
* .05 ** .01 *** .001.

[b] Omits responses of two students for whom no program data were available.

scores for each of the eight items. "Making new friends and meeting new people" received the highest mean score (2.51 out of a possible 3.00), followed by "faculty/student relations" (2.49) and "instruction" (2.45). "Course variety" was rated least favorably (1.97). On all of the items but two (intellectual environment and total college experience), there were statistically significant differences in mean scores, by program. (See Figure 10.)

FIGURE 10

RATINGS OF COLLEGE EXPERIENCE BY NON-CONTINUING STUDENTS (MEAN SCORES)



The ranges in mean scores are presented below:

Item	Highest	Lowest
Instruction	2.66 health svcs.	2.33 business
Faculty/Student Relns.	2.66 unclassified students	2.34 business
Course Variety	2.34 health svcs.	1.85 unclassified students
Intellectual Environment	2.38 hotel/food svcs.	2.16 business
Counseling Services	2.38 health svcs.	2.14 liberal arts
Student Friendships	2.72 hotel/food svcs.	2.38 business
Facilities/Equipment	2.45 hotel/food svcs.	2.16 health svcs.
Total College Experience	2.56 health svcs.	2.33 business

Noteworthy are the generally favorable ratings of students who majored in health services or hotel/food services. Each of these programs had fewer than 75 respondents. In contrast was business; respondents varied from 278 to 418 in rating the eight items. The lowest mean scores on five items were those of non-continuing students who majored in business.

C. Concluding Comment

This analysis of five non-continuing student surveys clearly indicates that respondents differed in their characteristics as well as in their responses based on their program. For example, non-continuing students in liberal arts, in contrast to those in various vocational education programs, had higher proportions who:

- cited transfer as a reason for dropping out.
- transferred to the University of Hawaii at Manoa.
- felt that their jobs and community college studies were not closely related.
- had plans to continue their education.

Non-continuing students in the various programs differed significantly in their evaluation of the college experience. The item that received (1) the highest mean score for all programs but public services and unclassified students was "student friendships," (2) the lowest mean score for all programs but health services was "course variety." Another item that was rated favorably by most programs was "faculty/student relations;" another rated least favorably was "counseling services." The low ratings by business dropouts and on course variety and counseling services should be considered by campus personnel in program planning.

There is a common tendency to assume that dropouts reflect poorly on an institution. This study, based on the responses of 41 percent of our dropouts, shows that the overwhelming majority of non-continuing students were either working (54 percent) or attending another institution (28 percent).[4] Cope and Hannah indicate that "what is known [about dropouts] suggests that we have been overestimating the negative implications of interrupted studies and even permanent dropping out."[5]

As part of the National Longitudinal Study of the High School Class of 1972, an appraisal was made of student withdrawal from institutions of higher education. The data on two-year colleges showed that about four-fifths of the withdrawals were employed full-time. This is a much higher proportion than that found in our study. The National Longitudinal Study also indicated that: "Of those employed, the withdrawals from two-year schools were almost as satisfied with their jobs as those who had completed the two-year degree. This suggests that withdrawals may not be much different from others in regard to the level of job satisfaction."[6] Unfortunately, we do not have data on job satisfaction for either our graduates or non-continuing students. This could be a fruitful area to investigate.

A recent study conducted by the Berkeley office of the Educational Testing Service found that potential dropouts tend to go to college for "personal fulfillment" rather than as preparation for getting a job. "The dropouts appeared to be less able, academically, and less career goal oriented than persisters."[7]

Although we did not study the goals of our students at entry, we are recommending that this be done in future student flow projects. This will enable us to discover whether graduates and dropouts differ in their goals. If such is the case, that finding can also be used in our attempts to identify potential dropouts.

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[4] In four recent follow-up studies of dropouts, Montgomery College found that the proportion attending school ranged from 45 to 54 percent during the four years; the proportion employed full-time ranged from 28 to 43 percent. (Source: Robert L. Gell, et al, A Four Year Follow-Up of Non-Returning Students at Montgomery College [Maryland: Montgomery College, Office of Institutional Research, 1975], p. 6.)

[5] Cope and Hannah, op. cit., p. 59.

[6] U. S. Department of Health, Education, and Welfare, National Center for Education Statistics, National Longitudinal Study; Withdrawal from Institutions of Higher Education, NCES 77-264 (Washington, D. C.: U. S. Government Printing Office, 1977), p. 109.

[7] Edward Tibby, et al, What Really Happened to the Class of '75? A College Experience Survey (Berkeley, California: Educational Testing Service, June 1978), p. 34.

V. GRADUATES

At the end of six semesters, 16 percent (1,400) of the Fall 1975 entering group had graduated: 1,346 from their campus of entry and the remaining 54 from another community college of the University of Hawaii. This section focuses on the characteristics of these 1,400 graduates and their responses to Alumni Surveys. There is also a comparison of the responses of graduates and dropouts on similar items in follow-up surveys.

A. Characteristics of Graduates

The graduates were predominantly female (53 percent), below 19 years of age at entry (52 percent) and single (81 percent). The great majority entered the community colleges as students new to higher education (72 percent) and were full-time students (83 percent). Slightly over half (56 percent) earned A.S. degrees, and a half had credit-completion ratios of .80 to .99. A plurality of graduates came from public, Oahu, high schools (43 percent), majored in business (30 percent) and entered Kapiolani Community College (26 percent). About a third each graduated at the end of four or six semesters, and slightly more had cumulative grade point averages of 2.0-2.9 (38 percent) or 3.0-3.4 (35 percent).

B. Results of Alumni Surveys

A copy of the Alumni Survey was sent each fall to students who graduated in the previous fiscal year to solicit data on their activities and to provide them with an opportunity to evaluate their community college experience.[1] This section summarizes the responses of 1975-76, 1976-77 and 1977-78 graduates who entered the community colleges in Fall 1975. Although the questionnaires in those three years were not identical, there were many similar items, so this summary of findings covers all respondents during this period. The analysis is by program, and campus data are found in Appendix E.

1. Nature of Respondents

Of the 1,400 graduates, 877 (63 percent) responded to the Alumni Survey. The characteristics of respondents and non-respondents were compared to evaluate the representativeness of returns. While no significant differences between respondents and non-respondents were found on eight characteristics (sex, marital status, high school background, entry age, entry status, full-/part-time status, degree earned and campus of entry), there were statistically significant differences on program, cumulative grade point average, credit-completion ratio and number of semesters attended.[2] Compared to the graduate population, the responding group included slightly higher proportions of graduates who:

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[1] This effort was part of a University-wide undertaking including graduates of the University's ten campuses.

- majored in liberal arts and business
- earned cumulative grade point averages of 3.0 and above
- had credit-completion ratios of 1.00
- attended the community colleges for 4 semesters

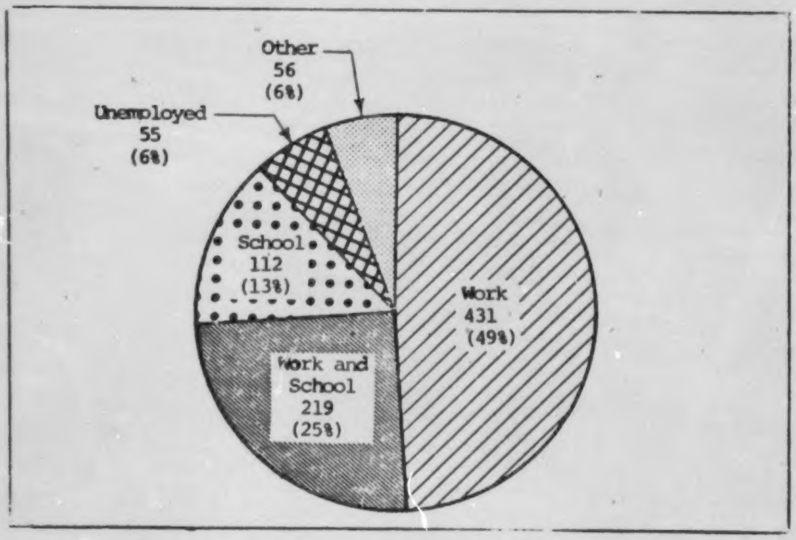
It is not unusual to find high rates of return for "academically successful" students. These findings on representativeness should be considered in evaluating the responses of community college graduates.

2. Post-Graduation Activities

Alumni were asked to indicate what their activities were immediately after graduation. Almost half indicated they were working, a fourth were combining work and further education, while 13 percent were attending school as their sole activity (Figure 11).

FIGURE 11

ACTIVITIES OF GRADUATES
N = 873



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[2] There were statistically significant differences between respondents and non-respondents at the .05 level on program and at the .001 level on the remaining three characteristics.

Respondents differed significantly in their activities on the following characteristics: sex, high school background, entry age, program, degree earned, number of semesters they attended the community colleges and campus of entry. The data in Table 14 show the differences, by program. Especially high proportions of health services and business graduates were working, and, not unexpected, was the high proportion of liberal arts majors who were attending school or combining school and employment. The unemployment rate was 6 percent for the total.

TABLE 14

ACTIVITIES OF GRADUATES, BY PROGRAM

Activity	Total[a]		Liberal Arts		Business		Health Svcs.		H/Food Svcs.		Public Svcs.		Technology	
	No.	V%	No.	V%	No.	V%	No.	V%	No.	V%	No.	V%	No.	V%
TOTAL	873	*100%*	192	*100%*	281	*100%*	100	*100%*	26	*100%*	47	*100%*	227	*100%*
Work	431	*49%*	27	*14%*	180	*64%*	71	*71%*	13	*50%*	15	*32%*	125	*55%*
School	112	*13%*	64	*33%*	14	*5%*	3	*3%*	2	*8%*	3	*6%*	26	*12%*
Work/School	219	*25%*	76	*40%*	50	*18%*	11	*11%*	7	*27%*	21	*45%*	54	*24%*
Unemployed	55	*6%*	9	*5%*	21	*8%*	10	*10%*	2	*8%*	3	*6%*	10	*4%*
Other	56	*6%*	16	*8%*	16	*6%*	5	*5%*	2	*8%*	5	*11%*	12	*5%*

[a] Omits the response of one "unclassified" student.

Not presented in this report are extensive data on the remaining characteristics on which there were statistically significant differences in the activities of graduates. To illustrate some of these differences, data are given on the proportions of graduates who were working: 49 percent of all graduates were working, and especially high proportions of the following sub-groups were employed; i.e., graduates who:

60% came from public, Neighbor Island, high schools

57% were 19-21 years old at entry

60% earned A.S. degrees

61% earned their degrees at the end of 4 semesters

62% entered Kauai Community College

61% entered Hawaii or Kapiolani Community College

3. Graduates Who Were Working

Although 651 graduates indicated they were working or combining work and school, not all of them furnished details on the seven questions regarding their employment. The total number of respondents varied, and percentages were based on the total answering the particular item.

A great majority of graduates were employed full-time, on Oahu, in private industry. About two-fifths had clerical/sales occupations and about a fourth held service jobs. Close to a half of the full-time employees earned under $7,500 annually. A fourth of the employed graduates felt that their present jobs were definitely related to their career plans, and close to a half indicated that their jobs were closely related to their major fields of study.

The two programs with a large number of respondents were business and technology. As expected, a great majority (86 percent) of business graduates were in clerical/sales work and close to a half of technology graduates held jobs in machine trades, bench work and structural work. The data in Table 15 show that among graduates in business, compared to those in technology, there:

- were higher proportions who worked full-time, earned under $7,500 annually, felt that their jobs were closely related to their community college studies
- was a lower proportion who worked in private industry

Details on the employment of graduates with other majors are also found in Table 15.

Listed below are some highlights from Table 15 as well as selected data on other characteristics which proved to be statistically significant.

a. Work Status: 71% of employed graduates were working full-time. Full-time work was an activity for especially high proportions of graduates who:

87% were over 29 years old at entry

84% were married

82% majored in health services

b. Occupation: 43% of all employed graduates were in clerical/sales occupations, especially graduates who were:

65% females

57% below 19 years of age at entry

86% business majors

59% in attendance for 3 semesters

TABLE 15

DETAILS ON EMPLOYMENT, BY PROGRAM

Item[a]	Total[b]	Liberal Arts	Business	Health Svcs.	Hotel/Food Svcs.	Public Svcs.	Technology
WORK STATUS***							
Total	(665)	(106)	(234)	(83)	(21)	(36)	(185)
Full-time	71%	47%	77%	82%	(11)	75%	72%
Part-time	25%	47%	18%	15%	(7)	22%	25%
More than one job	5%	6%	6%	4%	(3)	3%	3%
OCCUPATION***							
Total	(657)	(100)	(234)	(83)	(21)	(36)	(183)
Prof/Tech/Mgl	11%	11%	3%	35%	(3)	14%	9%
Clerical/Sales	43%	48%	86%	6%	(0)	17%	11%
Service	23%	18%	7%	59%	(16)	58%	15%
Mach/Bench/Struct	15%	8%	1%	0%	(0)	3%	48%
Other	9%	15%	3%	0%	(2)	8%	18%
ANNUAL SALARY: FULL-TIME EMPLOYEES***							
Total	(437)	(47)	(166)	(67)	(8)	(26)	(123)
Under $6,000	25%	23%	30%	13%	(3)	(2)	28%
$6,000-$7,499	23%	17%	32%	19%	(0)	(2)	20%
$7,500-$9,999	23%	11%	23%	43%	(1)	(7)	19%
$10,000-$14,999	15%	26%	5%	21%	(2)	(6)	17%
$15,000 and above	8%	23%	2%	2%	(0)	(9)	7%
Don't know	7%	0%	8%	2%	(2)	(0)	10%
EMPLOYER***							
Total	(653)	(102)	(232)	(81)	(21)	(36)	(181)
Private Industry	61%	58%	62%	51%	(7)	31%	75%
Tourist Industry	9%	9%	11%	0%	(13)	3%	7%
State Government	11%	10%	14%	21%	(1)	11%	3%
County/Federal Govt.	11%	17%	9%	3%	(0)	47%	7%
Other	9%	7%	4%	26%	(0)	8%	8%
PLACE OF EMPLOYMENT							
Total	(664)	(104)	(236)	(84)	(21)	(36)	(183)
Oahu	64%	75%	59%	68%	(13)	75%	60%
Neighbor Island	34%	19%	39%	27%	(7)	25%	39%
Out-of-state	3%	6%	2%	5%	(1)	0%	2%
JOB/CAREER REL.***							
Total	(647)	(104)	(228)	(81)	(18)	(36)	(180)
Definitely rel.	24%	12%	22%	40%	(7)	39%	21%
Probably rel.	39%	22%	45%	48%	(7)	28%	39%
Probably not rel.	21%	29%	24%	4%	(2)	17%	22%
Definitely not rel.	17%	38%	10%	9%	(2)	17%	18%
JOB/STUDIES REL.***							
Total	(653)	(101)	(232)	(82)	(20)	(36)	(182)
Closely rel.	48%	10%	53%	84%	(14)	58%	43%
Somewhat rel.	24%	30%	33%	13%	(3)	6%	18%
Not related	28%	60%	14%	2%	(3)	36%	39%

[a] Levels of significance, based on chi-square analysis, denoted thus: * .05 ** .01 *** .001.

[b] Omits the response of one "unclassified" student.

c. Annual Salary of Full-Time Employees: 48% earned under $7,500, and this was characteristic of high proportions of graduates who:

58% were females

61% were below 19 years of age at entry

63% earned Certificates of Achievement

62% majored in business

60% attended for 4 semesters

60% entered Kauai Community College

d. Employer: 61% were employed by private industry, and this was especially true for graduates who:

75% majored in technology

77% entered Windward Community College

e. Place of Employment: 64% were employed on Oahu, especially graduates who:

96% came from public, Oahu, high schools

81% attended 3 semesters

92%-94% entered Oahu community colleges (Honolulu, Kapiolani, Leeward, Windward)

f. Job/Career Relationship: 63% felt that their present jobs were definitely or probably related to their careers. This sentiment was shared by high proportions of graduates who:

79% were over 29 years of age at entry

88% majored in health services

g. Job/Studies Relationship: 48% felt that their jobs and community college studies were closely related, and this feeling was expressed by high proportions of graduates who:

65% were 22-24 years old at entry

84% majored in health services

64% entered Kapiolani Community College

The data above, although only a small portion of the available information, were presented to show the diverse responses of our employed graduates. To appreciate how few details have been given, we should note that on each of the items, there were statistically significant differences by several characteristics: occupation and annual salary (12), employer (8), place of employment (7), job/career relationship (6), work status and job/studies relationship (5).

4. Graduates Who Were Continuing Their Education

Of the approximately 350 graduates who indicated they were continuing their education:

- about three-fourths were doing so as full-time students
- close to a half were attending the community colleges of the University and about a third were at the University of Hawaii at Manoa
- slightly over half had the bachelor's degree as their educational objective

We were surprised to find that close to a half of our graduates were remaining at the community colleges for post-graduation study. The 166 who were doing so had already earned:

33 Certificates of Achievement
102 A.S. degrees
31 A.A. degrees

The data in Table 16 show that graduates from the different programs varied significantly on enrollment status, college and educational objective. For example:

- 84% of liberal arts students were full-time students while only 58% of business graduates were
- 63% of liberal arts students attended U.H. Manoa while over half of business and technology graduates attended the community colleges
- 82% of liberal arts students were seeking bachelor's degrees while about two-fifths of business and technology graduates were seeking associate degrees

TABLE 16

DETAILS ON FURTHER EDUCATION, BY PROGRAM

Item[a]	Total[b]	Liberal Arts	Business	Health Svcs.	Hotel/Food Svcs.	Public Svcs.	Technology
ENROLLMENT STATUS**							
Total	(356)	(153)	(66)	(16)	(11)	(25)	(85)
Full-time	74%	84%	58%	(10)	(7)	(18)	74%
Part-time	26%	16%	42%	(6)	(4)	(7)	26%
SCHOOL***							
Total	(351)	(153)	(64)	(15)	(10)	(24)	(85)
Oahu, Comm. Coll.[c]	33%	13%	55%	(1)	(9)	(7)	51%
N.I., Comm. Coll.	15%	7%	23%	(1)	(0)	(4)	24%
U.H. Manoa[d]	35%	63%	8%	(6)	(0)	(7)	9%
Other	18%	16%	14%	(7)	(1)	(6)	16%
EDUCATIONAL OBJ.***							
Total	(349)	(153)	(65)	(15)	(11)	(24)	(81)
Certificate	8%	2%	14%	(0)	(2)	(0)	16%
Associate Degree	25%	9%	42%	(4)	(5)	(8)	38%
Bachelor's	54%	82%	23%	(10)	(1)	(14)	30%
Other	13%	7%	22%	(1)	(3)	(2)	16%

[a] Levels of significance, based on chi-square analysis, denoted thus: * .05 ** .01 *** .001.

[b] Omits the response of one "unclassified" student.

[c] The following programs in the community colleges attracted at least 30 students: business (35), technology (47).

[d] The following programs in four-year institutions attracted at least 30 students: humanities (39), social sciences (34), business administration (40).

In addition to the differences noted in Table 16, there were other characteristics which proved to be statistically significant.[3] Selected data are given below as illustrative of some of these differences:

a. Enrollment Status: 74% of the graduates continuing their education were full-time students as were especially high proportions of graduates who:

84% were 19-21 years old at entry

84% earned A.A. degrees

84% entered Hawaii Community College

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[3] The number of characteristics which proved to be statistically significant were: school (8), educational objective (7), enrollment status (5).

b. School: 48% attended the community colleges and this was characteristic especially of graduates who:

69% earned A.S. degrees

78% majored in business

75% majored in technology

71% attended for 6 semesters

c. Educational Objective: 54% were seeking bachelor's degrees, especially graduates who:

80% came from Mainland high schools

82% earned A.A. degrees

81% attended for 3 semesters

82% entered Leeward Community College

75% entered Windward Community College

5. Evaluation of Campus Helpfulness in Attaining Goals

Graduates were requested to indicate the degree to which campuses had been helpful to them in attaining their goals. At least 700 graduates (out of a total of 877 respondents) shared the following goals:

825 broaden educational background

796 get a degree

793 prepare for a career

729 gain specific knowledge for personal use/interest

Fewer than 450 considered the following to be their goals:

420 prepare for a career change

413 meet academic requirements necessary for admission to a four-year or graduate/professional school

411 increase chances for a possible raise and/or promotion in present job

366 become actively involved in student life and campus activities

Campus helpfulness in attaining goals was rated on a three-point scale with 3 being the most favorable response. The data in Table 17 show the mean scores for the community colleges as a whole and for each program.

TABLE 17

EVALUATION OF CAMPUS HELPFULNESS IN ATTAINING GOALS, BY PROGRAM

Note: The data below are mean scores based on the following scoring: 1(not much help, 2(some help), 3(great deal of help). The total number of students (left corner) may differ from item to item because not all goals were considered important by students.

Goal[a]	Total[b]	Liberal Arts	Business	Health Svcs.	H/Food Svcs.	Public Svcs.	Technology
Get a degree*	796 2.72	181 2.69	256 2.77	84 2.83	23 2.57	47 2.70	204 2.68
Broaden educational background**	825 2.52	181 2.67	263 2.44	88 2.51	23 2.48	47 2.49	222 2.53
Discover vocational interest***	664 2.21	136 1.93	234 2.18	55 2.42	19 2.26	33 2.21	187 2.39
Prepare for a career***	793 2.49	150 2.15	268 2.61	94 2.77	23 2.39	45 2.40	212 2.48
Prepare for career change	420 2.13	91 2.10	145 2.06	36 2.42	10 2.20	24 2.17	114 2.15
Improve knowledge/ skills***	516 2.37	70 1.94	195 2.47	55 2.67	19 2.26	30 2.47	147 2.33
Gain practical experience***	694 2.38	88 2.01	250 2.46	88 2.74	22 2.36	33 2.21	212 2.31
Increase chance for promotion/raise*	411 2.10	62 1.92	152 2.11	31 2.16	16 1.81	31 2.45	119 2.10
Meet academic req. for admission***	413 2.40	171 2.77	84 2.12	37 2.27	8 2.50	27 2.33	85 2.00
Gain knowledge for personal use***	729 2.48	165 2.64	238 2.34	68 2.54	23 2.39	39 2.46	196 2.51
Make new friends	692 2.41	149 2.46	238 2.40	66 2.44	19 2.37	35 2.20	184 2.43
Participate in campus activities*	366 1.86	80 1.98	132 1.77	20 2.05	10 1.70	21 1.57	103 1.94
Improve self-image***	646 2.32	145 2.46	225 2.24	64 2.52	17 2.00	29 2.17	165 2.30

[a] Levels of significance, based on analysis of variance, denoted thus: * .05 ** .01 *** .001.

[b] Omits the response of one "unclassified" student.

Among the noteworthy findings in Table 17 are the following:

- mean scores were most favorable for the attainment of the following goals:

  2.72 get a degree
  2.52 broaden educational background
  2.49 prepare for a career
  2.48 gain specific knowledge for personal use/interest

  These four goals were enumerated earlier as being important to a great number of graduates.

- the mean scores were lowest for:

  1.86 become actively involved in student life
  2.10 increase chances for possible raise/promotion
  2.13 prepare for a career change

- there were statistically significant differences in mean scores, by program, on all goals but two ("prepare for career change" and "make new friends and meet new people")

- graduates in liberal arts gave the most favorable rating (2.77) to campus helpfulness relative to meeting academic requirements for further education

- graduates in all of the vocational education programs rated campus helpfulness most favorably on "get a degree," ranging from 2.83 for health services to 2.57 for hotel/food services

Mean scores for each of the 13 goals were analyzed in terms of 11 additional characteristics, and many were found to be significantly different. For example, the mean scores on campus helpfulness differed significantly, by degree earned, on 8 goals; by campus of entry on 7 goals.[4] A few illustrative highlights are given below in terms of the sub-group of graduates that rated campus helpfulness very favorably as reflected in high mean scores:

- to get a degree (2.72)

  3.00 had grade point averages below 2.0
  2.85 were married

- to broaden educational background (2.52)

  2.86 entered Windward Community College (2.62, Leeward)
  2.74 were over 29 years old at entry

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[4] Other significant differences were found: age and marital status on 6 goals, high school background on 5, sex and grade point average on 4, number of semesters attended on 3, entry status on 2 and full-/part-time status and credit-completion ratio on 1.

- to discover vocational interests (2.21)

  2.42 majored in health services

- to prepare for a career (2.49)

  2.77 majored in health services

- to prepare for career change (2.13)

  2.41 were 25-29 years old at entry

- to improve knowledge and skills in present job (2.37)

  2.67 majored in health services

- to gain practical experience in an occupational field (2.38)

  2.74 majored in health services
  2.68 attended for 2 semesters

- to increase chances for promotion/pay raise (2.10)

  2.45 majored in public services

- to meet academic requirements for further education (2.40)

  2.81 entered Windward Community College (2.62, Leeward)
  2.77 majored in liberal arts
  2.70 were over 29 years old at entry

- to gain specific knowledge for personal use/interest (2.48)

  2.84 entered Windward Community College (2.67, Kauai)
  2.81 attended for 2 semesters

- to make new friends and meet new people (2.41)

  2.63 came from foreign high schools

- to participate in campus activities (1.86)

- to improve self-image (2.32)

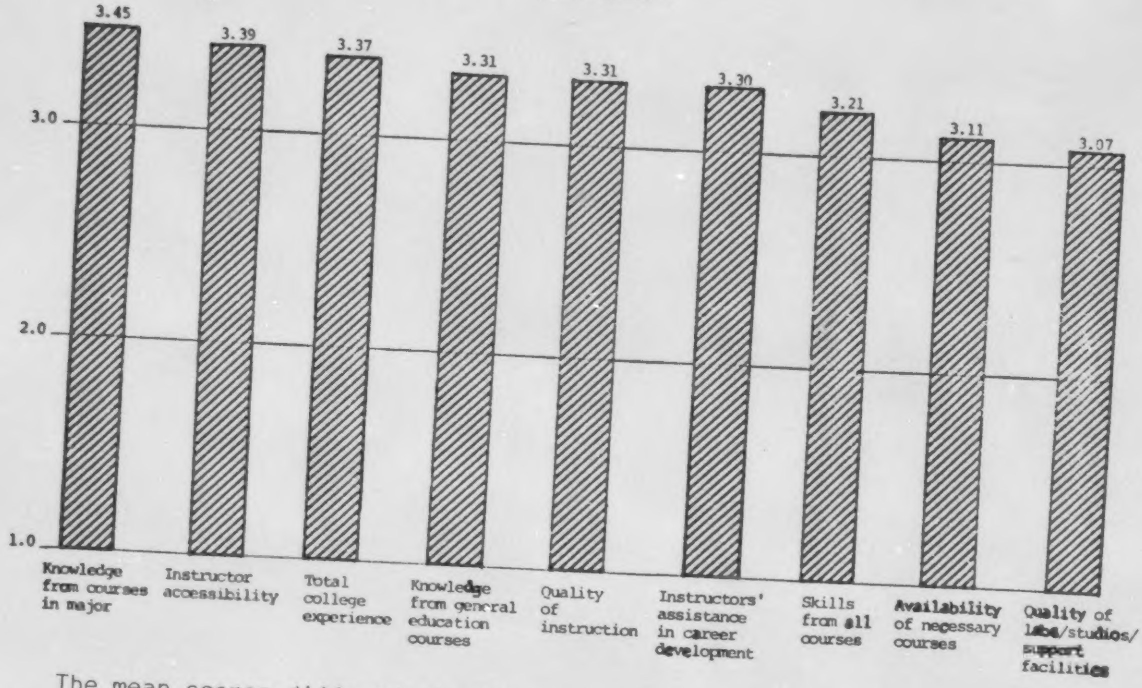
  2.78 attended for 2 semesters
  2.67 came from foreign high schools
  2.63 were over 29 years old at entry

Among the sub-groups that were especially favorable in their ratings of campus helpfulness in goal attainment were: graduates who were over 29 years old at entry, who majored in health services and who attended for two semesters.

6. Evaluation of College Experience

Nine items were rated by graduates on a four-point scale with 4 (very satisfied) being the most favorable and 1 (very dissatisfied) being the least complimentary. The number of graduates who rated the items varied from 840 to 785. The highest mean score was for "knowledge gained from courses in major" (Figure 12).

FIGURE 12
RATINGS OF COLLEGE EXPERIENCE BY GRADUATES
(MEAN SCORES)



The mean scores differed significantly, by program, on all items except "instructors' assistance in career development," as shown in Table 18. Selected findings are given below:

- mean scores ranged from 3.45 (knowledge gained from courses in major) to 3.07 (quality of labs/studios/support facilities)
- the mean score for "total college experience" was 3.37 (out of a possible 4.00)
- graduates in liberal arts rated the following areas more favorably than their counterparts in the various vocational education programs: knowledge gained from general education courses (3.56), skills gained from all courses (3.36), overall quality of instruction (3.54), accessibility of instructors (3.62) and total college experience (3.55)

- the areas which received the highest mean scores were:
  - --knowledge gained from courses in major for graduates who majored in business (3.52), health services (3.54) and technology (3.46)
  - --instructor accessibility for graduates who majored in liberal arts (3.62) and technology (3.46)
  - --knowledge gained from general education courses for graduates who majored in liberal arts (3.56) and public services (3.51)
- the areas which received the lowest mean scores were:
  - --quality of labs/studios/support facilities for graduates who majored in business (2.97) and health services (2.86)
  - --availability of necessary courses for graduates who majored in business (3.00)
  - --skills gained from all courses for graduates who majored in health services (3.12)

TABLE 18

EVALUATION OF COLLEGE EXPERIENCE, BY PROGRAM

Note: The data below are mean scores based on the following scoring: 1(very dissatisfied), 2(somewhat dissatisfied), 3(somewhat satisfied), 4(very satisfied). The total number of students (left corner) may differ from item to item because students did not respond to all items.

Item[a]	Total[b]	Liberal Arts	Business	Health Svcs.	Hotel/Food Svcs.	Public Svcs.	Technology
Knowledge from general education courses***	789 3.31	173 3.56	263 3.24	76 3.13	21 3.33	41 3.51	215 3.24
Knowledge from courses in major*	794 3.45	167 3.30	263 3.52	79 3.54	22 3.32	46 3.41	217 3.46
Skills from all courses*	785 3.21	171 3.36	262 3.19	74 3.12	19 3.16	44 3.23	215 3.16
Quality of instruction***	798 3.31	170 3.54	264 3.20	79 3.23	22 3.32	46 3.26	217 3.30
Availability of necessary courses***	840 3.11	188 3.10	272 3.00	89 3.36	22 3.23	47 3.15	221 3.15
Instructor accessibility***	840 3.39	198 3.62	270 3.16	95 3.41	20 3.25	47 3.43	220 3.46
Instructors' assistance in career development	789 3.30	165 3.30	263 3.19	79 3.39	21 3.24	45 3.40	216 3.38
Quality of labs/studios/ support facilities***	822 3.07	181 3.25	264 2.97	92 2.86	23 3.30	43 3.14	219 3.10
Total college experience**	792 3.37	171 3.55	263 3.33	79 3.20	22 3.32	43 3.44	214 3.34

[a] Levels of significance, based on analysis of variance, denoted thus: * .05 ** .01 *** .001.

[b] Omits the response of one "unclassified" student.

Mean scores were found to differ significantly by other characteristics besides program: degree earned and campus of entry on 7 areas, age on 5, high school background and sex on 4.[5] To illustrate some of these differences, the sub-groups of graduates with very high mean scores are presented below:

- knowledge gained from general education courses (3.31)

  3.79 entered Windward Community College (3.48, Kauai and Leeward)

- skills gained from all courses (3.21)

  3.61 entered Windward Community College (3.40, Leeward)
  3.55 were over 29 years old at entry
  3.52 came from foreign high schools

- overall quality of instruction (3.31)

  3.83 entered Windward Community College (3.49, Leeward)

- availability of necessary courses (3.11)

  3.53 attended for 2 semesters

- accessibility of instructors (3.39)

  3.85 entered Windward Community College (3.49, Leeward)
  3.67 had grade point averages below 2.0

- quality of labs/studios/support facilities (3.07)

  3.46 entered Windward Community College (3.27, Maui)

- total college experience (3.37)

  3.88 entered Windward Community College (3.54, Leeward)
  3.64 came from foreign high schools

---

[5] Other significant differences were found: marital status on 3 areas; entry status, grade point average, number of semesters attended on 1. No significant differences in mean scores for all 9 areas were found on two characteristics: full-/part-time status and credit-completion ratio.

It is interesting to note that the graduates from Windward Community College, who numbered fewer than 30, and from Leeward who numbered as many as 160 respondents, were most favorable in their ratings of the above areas. It is heartening to see the indication of satisfaction by graduates who came from foreign high schools on skills they gained from all their courses and on the total college experience.

7. Evaluation of College Services

Graduates rated 21 college services on a four-point scale with 4 (very satisfied) being the most favorable response. Since many graduates did not use all services or felt that some were not available at their campuses, the number of respondents varied from item to item. For example, over 700 graduates rated admissions, registration, library services, bookstore and physical facilities, while fewer than 300 rated financial aids, job placement, athletic facilities, health services and housing services. Mean scores, by program, are presented in Table 19.

Selected highlights from Table 19 are given below:

- mean scores ranged from 3.32 (library services) to 2.09 (athletic facilities). The five services rated most favorably were library services, admissions, financial aids, student employment and learning assistance centers. Low ratings were given to parking, campus center, housing services, job placement, registration, food services and athletic facilities.

- on 13 out of 21 services, mean scores were above [illegible].00 out of a possible 4.00

- the ranges in ratings by graduates in the various programs were:

  --liberal arts: 3.57 (library services) to 2.28 (athletic facilities)

  --business: 3.37 (financial aids) to 2.23 (athletic facilities)

  --health services: 3.60 (student employment) to 1.78 (athletic facilities)

  --hotel/food services: 3.67 (health services--3 graduates) to 1.86 (athletic facilities)

  --public services: 3.70 (financial aids) to 1.93 (parking)

  --technology: 3.40 (library services) to 1.96 (athletic facilities)

- only one service--academic advising--received ratings of at least 3.05 by graduates in all six programs

- several services--financial aids, personal counseling, learning assistance centers, library services--received mean ratings of at least 3.00 by graduates in five programs

TABLE 19

EVALUATION OF COLLEGE SERVICES

Note: The data below are mean scores based on the following scoring: 1(very dissatisfied), 2(somewhat dissatisfied), 3(somewhat satisfied), 4(very satisfied). The total number of students (left corner) may differ from item to item because students rated only those services they used or found available at their campus.

Item[a]	Total	Liberal Arts	Business	Health Svcs.	Hotel/Food Svcs.	Public Svcs.	Technology
Admissions***	753 3.23	168 3.46	250 3.21	72 2.97	22 2.73	45 3.29	196 3.18
Orientation*	609 3.05	128 3.25	210 2.95	67 2.97	18 3.17	37 3.14	149 3.03
Registration***	785 2.86	172 3.04	261 2.62	76 2.71	21 2.57	45 3.11	210 3.05
Records***	588 3.09	147 3.31	176 2.99	51 2.73	20 3.00	41 3.20	153 3.11
Financial aids	281 3.22	59 3.24	102 3.37	39 3.13	12 3.00	10 3.70	59 2.98
Student employment***	329 3.16	48 3.08	167 3.32	20 3.60	7 2.86	9 2.33	78 2.85
Academic advising	621 3.12	155 3.17	222 3.10	48 3.29	15 3.07	33 3.06	148 3.05
Personal counseling	534 3.14	118 3.18	195 3.09	40 3.35	14 2.86	33 3.12	134 3.15
Learning assistance centers**	397 3.15	89 3.34	149 3.01	37 2.86	10 3.30	27 3.33	85 3.25
Testing services	361 3.03	71 3.21	144 2.97	34 2.79	8 3.00	19 3.05	85 3.08
Career counseling	471 3.02	100 3.01	177 3.03	48 2.98	9 2.89	24 3.13	113 3.02
Job placement	251 2.77	27 2.96	112 2.83	21 3.00	8 2.50	7 2.00	76 2.64
Food services	608 2.87	133 2.88	193 3.00	57 2.82	22 2.86	33 2.73	170 2.76
Campus center/ recreation**	385 2.55	92 2.83	117 2.66	26 2.23	12 2.33	19 2.26	119 2.36
Athletic facilities	235 2.09	61 2.28	52 2.23	18 1.78	7 1.86	14 2.00	83 1.96
Library services***	787 3.32	190 3.57	253 3.17	82 2.90	20 3.15	41 3.51	201 3.40
Health services	195 2.93	45 3.22	53 2.85	40 2.85	3 3.67	9 2.78	45 2.80
Housing services	125 2.58	22 2.55	36 2.44	20 2.90	2 3.00	3 2.67	42 2.55
Bookstore**	779 3.07	172 3.09	263 3.14	79 2.78	20 2.80	45 2.93	200 3.12
Parking***	677 2.43	159 2.98	206 2.26	63 2.25	16 1.94	41 1.93	192 2.38
Physical facilities***	741 3.06	169 3.36	243 3.00	76 2.53	17 2.76	42 2.86	194 3.15

[a] Levels of significance, based on analysis of variance, denoted thus: * .05 ** .01 *** .001.

Mean scores were found to differ significantly by other characteristics besides program; for example, campus of entry on 15 services, degree earned on 10, sex on 7.[6] To elaborate on some of these differences, the sub-groups with very high mean scores are summarized below:

• admissions (3.23)	Windward graduates (3.77), Leeward (3.48)
• orientation (3.05)	Windward graduates (3.44), Leeward (3.30)
• registration (2.86)	Windward graduates (3.43), Honolulu (3.11) public services graduates (3.11)
• records (3.09)	Windward graduates (3.37), Maui (3.32)
• student employment (3.16)	health services graduates (3.60)
• academic advising (3.12)	Windward graduates (3.64), Maui (3.33)
• learning assistance centers (3.15)	Windward graduates (3.64), Honolulu (3.41)
• food services (2.87)	Mainland high school graduates (3.48)
• campus center (2.55)	Windward graduates (3.00), Leeward (2.99)
• athletic facilities (2.09)	Maui graduates (2.59), Leeward (2.49) foreign high school graduates (2.45)
• library services (3.32)	graduates over 29 years old at entry(3.67) Windward graduates (3.67), Maui (3.59)
• health services (2.93)	Leeward graduates (3.56), Windward (3.00)
• bookstore (2.58)	Kauai graduates (3.44), Leeward (3.17) graduates over 29 years old at entry(3.36)
• parking (2.43)	Windward graduates (3.32), Leeward (3.30) liberal arts graduates (2.98)
• physical facilities (3.06)	Leeward graduates (3.64), Windward (3.52) liberal arts graduates (3.36)

---

[6] Other significant differences were found: age on 5 services, high school background and credit-completion ratio on 4, number of semesters attended on 3, marital status on 2, full-/part-time status and entry status on 1. No significant differences, by grade point average, were found in the mean scores for all 21 services.

8. Selected Comments of Graduates

The last question in the Alumni Survey was "What are your suggestions for improving this college?" Many graduates wrote comments related to various areas of their college experience and campus services. A few were selected to show the variety of sentiments expressed by our alumni.

Some comments were very complimentary of instructors and instruction:

> "The teachers are very helpful and made all the difference in my education." (Business, A.S.)
>
> "Get more instructors like _____, _____ and _____. To them teaching is not just a job; it's a personal involvement to change society for the better." (Liberal Arts, A.A.)
>
> "The LPN program is a very good one. The quality of the instruction, teachers, tests, pressures all helped in making me a better person. I really appreciate all those hours that instructors put in for us so that we could pass our State Board [exams]." (Health Services, Certificate)
>
> "Keep up the good work! Continue the personal touches that mean so much to students. You don't feel like a number at this college." (Liberal Arts, A.A.)

In contrast were the comments that indicated the need for instructors and counselors to keep "up to date":

> "Your counselors [should] be better familiarized with (1) prerequisite requirements, (2) credit transfer and (3) any pertinent information concerning eventual transfer to a four-year college." (Technology, A.S.)
>
> "I think it would be helpful if the teachers took some refresher courses to keep up with the ever changing trends." (Technology, A.S.)
>
> "Try to evaluate your counselors and especially instructors. You'd be surprised by [their] outdated information." (Business, A.S.)

There were also suggestions to improve the curricula of the community colleges, including:

- exploration of "all the different types of jobs in the field" to help students to be ready for the world of work. (Hotel/Food Services, A.S.)
- opening up of "new fields of vocational education" like solar air conditioning and offering more night classes in vocational education. (Technology, A.S.)

- emphasizing and improving marine-related work such as aquaculture, marine biology and oceanography." (Technology, A.S.)
- need to "combine theory with practical experience" in technical courses. (Technology, A.S.)
- feasibility of surveying students to find out "what courses they would like to attend." (Liberal Arts, A.A.)
- need to offer more courses to night students and "assistance in program planning/career development." (Public Services, A.S.)
- desirability of organizing extra-curricular activities for "people pursuing the same career (math club, computer programming projects, etc.)." (Liberal Arts, A.A.)
- adopting "a grading policy that includes failing grades. The current use of non-penalty grades creates an unrealistic environment." (Liberal Arts, A.A.)
- necessity to offer "more equivalent courses for transfer to other school systems." (Liberal Arts, A.A.)

Some comments were related to the need for improvement in food services, parking, student employment opportunities, athletic facilities, study areas and student centers. Also expressed was the importance of keeping offices open during hours convenient to students; e.g., admissions and records, student counseling offices, libraries.

Many remarks were selected because they suggested diverse ways in which improvements could be made. Because of this the reader may get the impression that graduates were more critical than complimentary in their remarks. In view of the nature of the question which sought suggestions for improving our colleges, we did not expect **the** words of praise expressed by some alumni.[7]

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[7] All questionnaires were returned to the campuses without the name of the respondent, but with program identification. Campuses were urged to analyze the comments of their alumni and to consider their suggestions in program planning.

C. Comparison of Graduates and Non-Continuing Students

The follow-up surveys sent to graduates and non-continuing students were not identical, but there were some similar items. Responses to those items were compared to identify areas on which there were statistically significant differences between alumni and dropouts.

1. Activities

On all six comparable items, regarding the activities of respondents, graduates and non-continuing students differed significantly.[8] For example:

- compared to dropouts, a higher proportion of graduates worked and/or attended school (87% vs 82%)
- compared to employed dropouts, a higher proportion of employed graduates:
    - --worked full-time (75% vs 69%)
    - --were employed in clerical/sales occupations (43% vs 34%)
    - --felt that their jobs were closely related to their major field of study (48% vs 29%)
- compared to graduates who continued their education, a higher proportion of dropouts who transferred to other schools:
    - --became full-time students (82% vs 74%)
    - --attended the University of Hawaii at Manoa (51% vs 35%)

Further details on employed respondents are provided in Figures 13 and 14. While higher proportions of graduates than dropouts were in clerical/sales and technology jobs (machine trades, bench work, structural work), the reverse was true for professional/technical/managerial work and service occupations. We were not surprised to find that far more dropouts than graduates were employed in jobs not related to their community college studies.

---

[8] A follow-up study in Oregon showed that 1/2 of the graduates and the "early leavers" were working and about a third each were continuing their education. However, twice as many employed graduates as early leavers had jobs related to their course of study. (Oregon, Department of Education, Career and Vocational Education Section, 1975 Community College Follow-Up System; Summary of Findings, Spring 1976 [n.d.], p. ii.)

FIGURE 13
OCCUPATIONS OF GRADUATES AND NON-CONTINUING STUDENTS

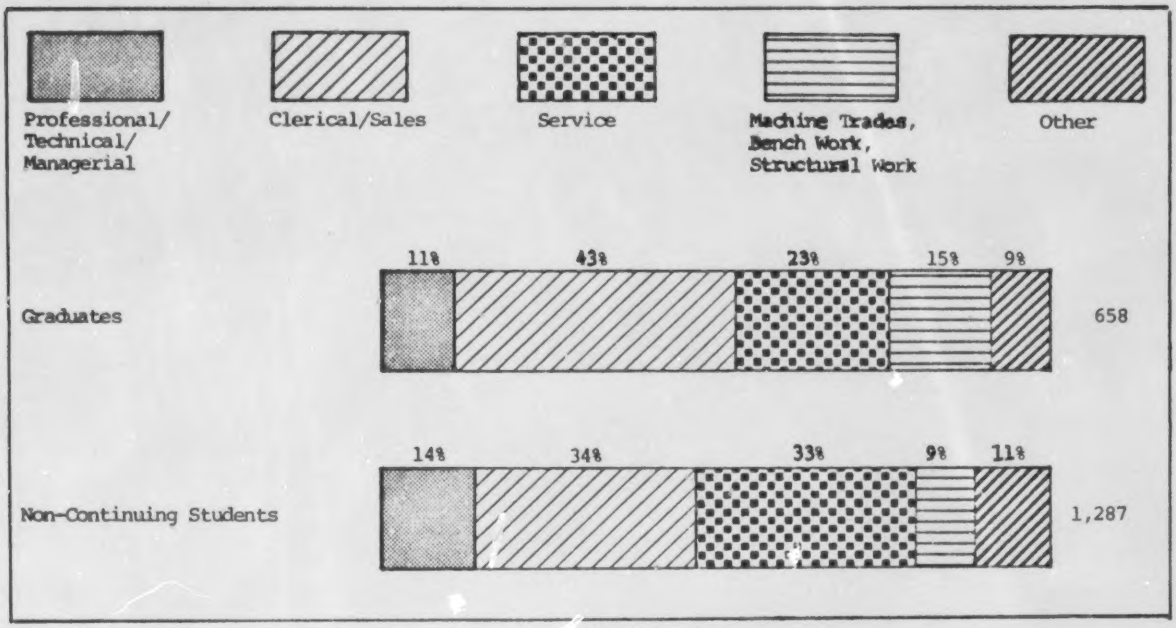
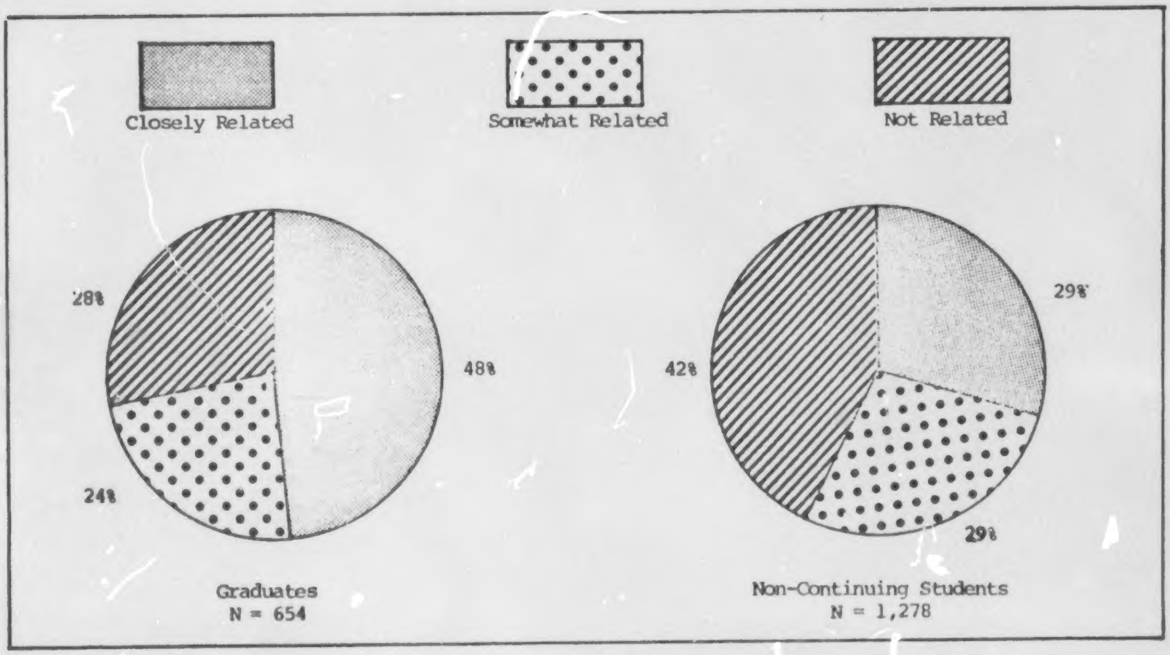


FIGURE 14
JOB/PROGRAM RELATIONSHIPS OF GRADUATES AND NON-CONTINUING STUDENTS



2. Evaluation of Community College Experience

There were nine similar items in the follow-up surveys which provided opportunities for respondents to evaluate their community college experiences. On all items, but counseling services, there were statistically significant differences in the ratings of graduates and non-continuing students. On some items, the ratings of dropouts were more favorable than those of graduates as shown in Figure 15. This may partially be due to the fact that a three-point scale was developed for comparison purposes to accommodate the four- and five-point scales in the original questionnaires.

Compared to non-continuing students, graduates had a higher proportion of "good" ratings on: broadening their educational backgrounds, course variety and preparation for a career. On the remaining items (except counseling services), the reverse was true. While 17 percent of the graduates rated their total college experience as "poor," only 8 percent of non-continuing students did so.

D. Concluding Comment

Slightly over three-fifths of the graduates responded to the Alumni Survey, and their responses on post-graduation activities and evaluation of their community college experience provide us with baseline data which should be of greater value as periodic or annual follow-up studies of graduates are conducted.

1. Activities

We were gratified to find that 7 out of 8 respondents were working and/or attending school: 431 were working, 112 were attending school and 219 were combining both. Graduates in the various programs differed in their activities, however. Half or more of the graduates in business, health services, hotel/food services and technology were working as their sole activity.

Although it is satisfying to know that many of our graduates were employed immediately after graduation, we do not know how many were employed in similar, if not the same, jobs while attending school. A follow-up survey conducted by Atlantic Community College in New Jersey indicated that: "69% of the respondents . . . had been employed full-time since graduation. About 24% began working full-time for the present employer before . . . graduation."[9] Perhaps our Alumni Survey should include a similar inquiry: Did you begin working full-time for your present or most recent employer before or after graduation from the community college?

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[9] Atlantic Community College, Office of Research, Survey of Graduates 1968-72 (Mays Landing, New Jersey: The College, June 11, 1974), p. 3.

FIGURE 15
EVALUATION OF COLLEGE EXPERIENCE BY
GRADUATES AND NON-CONTINUING STUDENTS

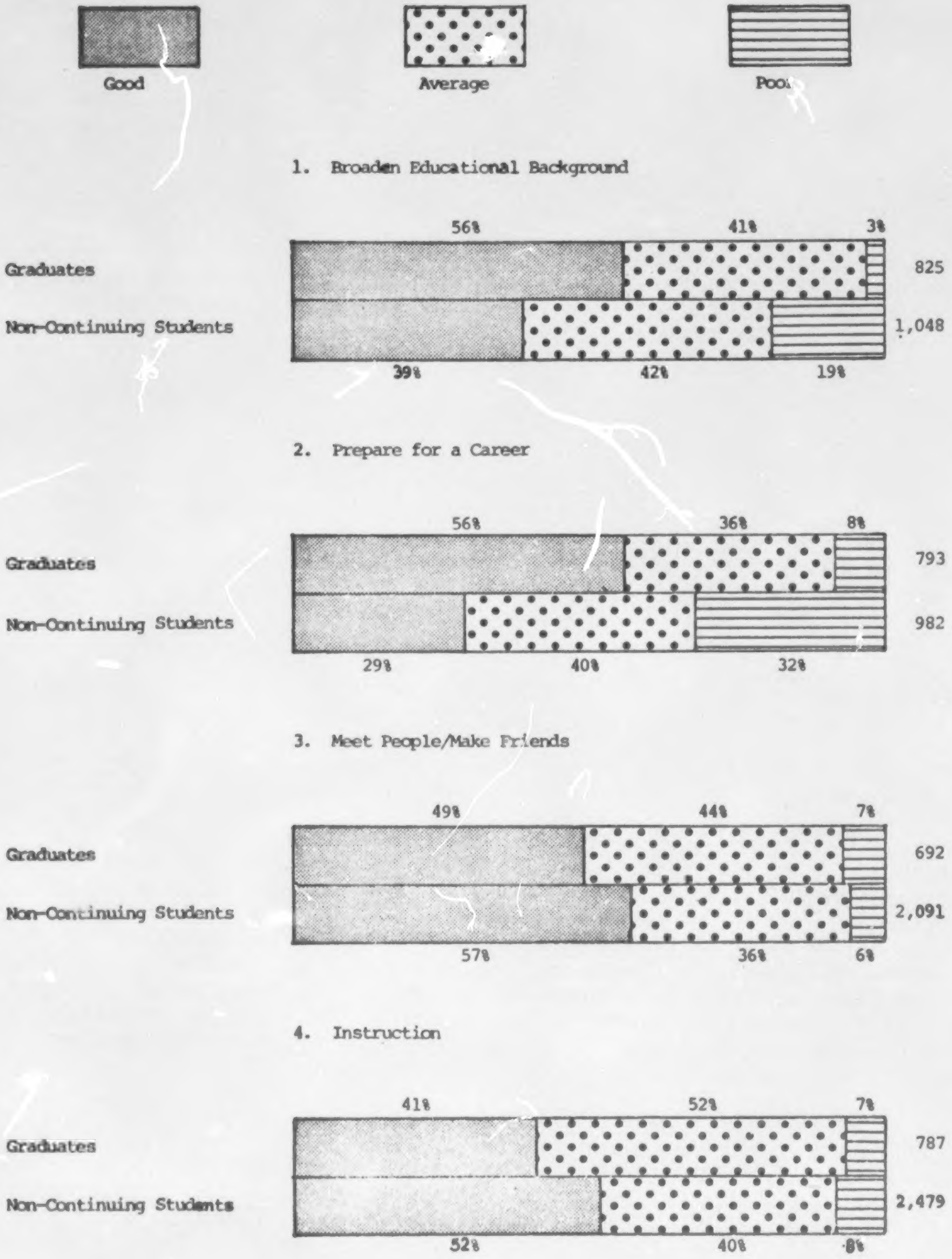
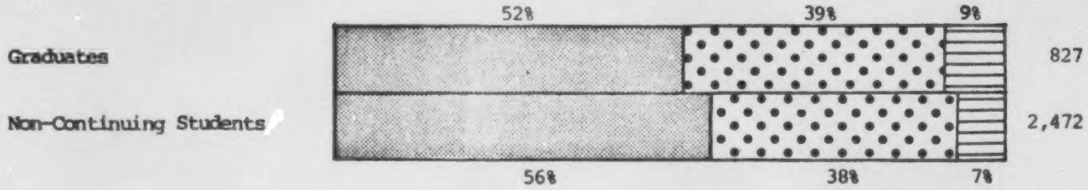
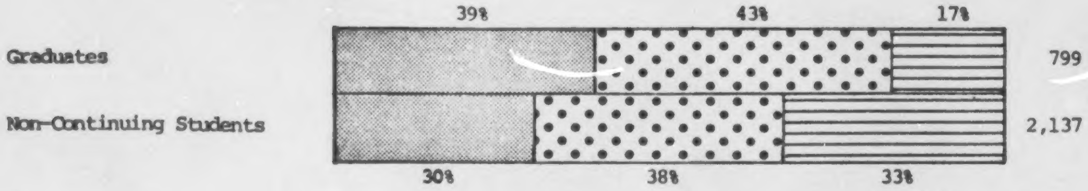


FIGURE 15 (Cont.)

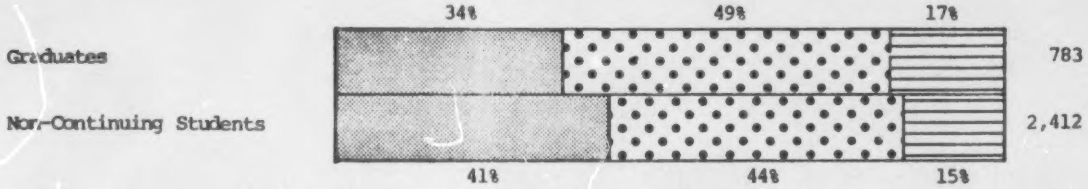
5. Faculty/Student Relations



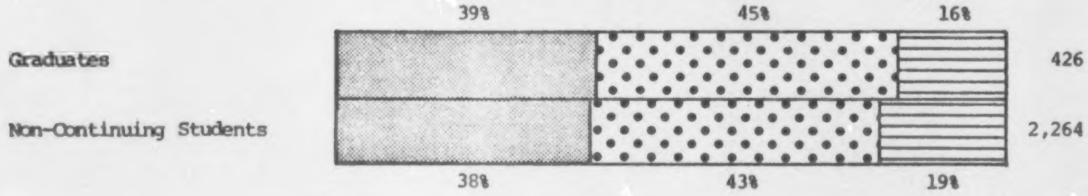
6. Course Variety



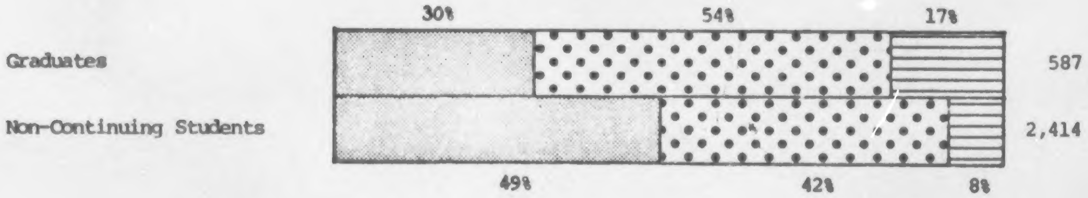
7. Facilities/Equipment



8. Counseling Services



9. Total College Experience



Our employed graduates were concentrated in clerical/sales and service occupations. Because about a half of the graduates felt their present jobs and community college studies were closely related, it was surprising to find only a fourth indicating that they would definitely make careers out of their present jobs.[10] Among liberal arts graduates who were employed: (a) about two-fifths indicated that their jobs and career plans were definitely not related and (b) three-fifths felt that their jobs and major fields of study were not related. Not unexpected were the more favorable responses of graduates in the various vocational education programs. For example, only a fifth of the vocational education graduates who were working felt that their jobs and studies were not related.

We also found that a higher proportion of employed graduates, in contrast to employed dropouts, were working full-time and felt that their jobs were closely related to their major fields of study.

A large number of graduates and dropouts were employed. In view of the rather small number of graduates (251) who used job placement services and because of its relatively low mean score (2.77 out of a possible 4.00), campuses should strive to make improvements in this area of student services.

Of the graduates who were continuing their education, 48 percent attended one of the University's community colleges and 35 percent, the University of Hawaii at Manoa. This finding was not expected. At least three-fourths of the business and technology graduates who were continuing their education did so at the community colleges. At least a half of the graduates from Hawaii, Honolulu, Kapiolani, Kauai and Maui attended community colleges for their post-graduation study.

The fact that many community college graduates returned to their alma mater for post-graduation study, either to obtain other degrees or for continuing education purposes, means that the community colleges should not be considered "terminal" or simply post-high school institutions. The return of our graduates, as well as the attendance of a few baccalaureate degree recipients, reflects another role that is being assumed by the community colleges, one which may become even more dominant in the years ahead. It is obvious that the curriculum and philosophy of the community colleges serve the needs of a wide range of adults.

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[10] A study of students in 110 community colleges (60 percent return) showed that "graduates from career education programs generally . . . . enter jobs related to their training, typically are satisfied with their educational experience, and that the probability of being satisfied with their job was higher when graduates entered jobs related to their training." (Richard J. Noeth and Gary R. Hanson, "Education and Employment of Post-Secondary Vocational-Technical and Transfer Students after Five Years," The Journal of Vocational Education Research, Vol. 1, No. 3 [Summer 1976], pp. 15-16.)

Other recent follow-up studies of graduates were conducted by: Hal Corson (Miami-Dade Community College in Florida), Ben Gold (Los Angeles City College), Robert Gell (Montgomery Community College in Maryland), John A. Mukavetz (Florissant Valley Community College in Missouri). Statewide follow-up studies were also conducted by Illinois and Oregon.

We also found that a higher proportion of "dropouts" (51 percent) than graduates (35 percent) continued their education at the University of Hawaii at Manoa. This is due, in part, to the encouragement given to liberal arts students, on some campuses, to transfer to a four-year institution after a semester or two. Furthermore, some graduates may desire A.A. degrees as terminal, rather than as pre-baccalaureate, awards.

Alexander Astin observed that "chances of persisting to the baccalaureate are slightly less at a two-year college than at a four-year college."[11] While this may be true, it is also important to point out that some students, because (not in spite) of their beginnings in the community colleges, which are conveniently located, inexpensive, and teaching-oriented, were able to develop the self-confidence required to pursue baccalaureate degrees. Since our community colleges do not require entrance examinations or high school academic records, we do not know how many of our "dropouts" who transferred to U.H. Manoa would have met admission requirements. No doubt, some did, and the remaining were given a "second chance" to qualify for entrance to a four-year institution.

2. Evaluation

The mean scores for campus helpfulness in attaining student goals were the most favorable for the goals considered important by the greatest number of graduates: getting a degree, broadening educational background, preparing for a career, gaining specific knowledge for personal use and interest. It is important for us to know that community college graduates were interested in developing competence in both vocational and general education.

Graduates rated favorably the nine items related to their college experience. The range in mean scores was 3.45 to 3.07 out of a possible 4.00. The items with the highest mean scores were: knowledge gained from courses in the major field, instructor accessibility and total college experience.

There was a wide range in the number of students who used the 21 college services they were asked to evaluate on a four-point scale. Of the five services used by at least 700 graduates, two were among those with the highest mean scores: library services and admissions. However, one was among those receiving the lowest ratings (registration). There were significant differences in mean scores, by program, on 11 services and, by campus, on 15.

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[11] Alexander W. Astin, Four Critical Years (San Francisco: Jossey-Bass, Inc., 1977), p. 247.

Somewhat unexpected was the finding, partially explained by differences in scaling, that non-continuing students were more favorable than graduates on some items in their evaluation of the college experience.[12] Campus personnel should analyze their data and the comments of their graduates and dropouts to plan improvements in curriculum, instruction, student services and physical facilities.

---

[12] The National Longitudinal Study found that "a greater proportion of withdrawals than persisters were students dissatisfied with the quality of the faculty and with their own intellectual growth and development of skills." (p. 93)

VI. PROGRESSION AND PERSISTENCE

The progression of Fall 1975 entering students was studied each semester in terms of the number that graduated, enrolled and dropped out.[1] In addition, at the end of the fourth and sixth semesters, persistence of these entering students was summarized.[2] This section presents data only on persistence at the end of the sixth semester in terms of the following five patterns of attendance at campus of entry:

• non-persister	attended one semester only
• stop-out	attended two or more non-consecutive semesters (in/out)
• moderate persister	attended two or more consecutive semesters (but fewer than six)
• extreme persister	attended all six semesters at campus of entry (without graduating)
• graduate	earned a certificate of achievement or associate degree (A.S. or A.A.) by the end of the sixth semester

A. Progression

Previous sections of this report presented data on enrolled students, non-continuing students and graduates in terms of their characteristics and, for the last two groups, their responses to follow-up surveys as well. In Figure 16 are data for the beginning of each semester on: cumulative number of graduates, number of registrants (including returning graduates as specified in footnote a) and number of dropouts. It is important to note that:

- the number of returning graduates reached 339 out of a total of 1,070 in Spring 1978. Furthermore, at the end of that semester, 302 students graduated. This means that a total of 1,372 completion awards were made by the community colleges during the six-semester period. By the end of the fourth semester, there was a total of 793 graduates, 555 of whom earned their degrees at the end of that semester.

- the number of enrolled students at the beginning of the sixth semester was 1,784 or 22 percent of potential registrants.

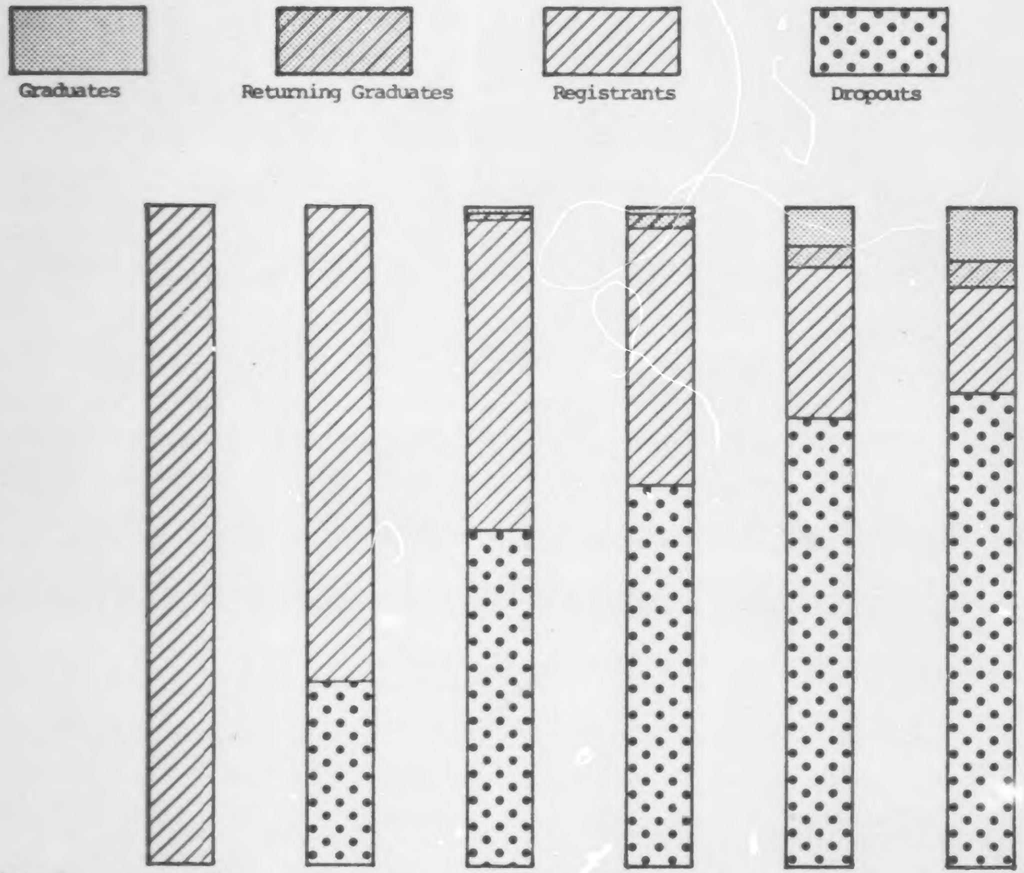
---

[1] See Student Flow Project, Reports No. 12, 27 and 43.

[2] See Student Flow Project, Reports No. 28, 44 and 45.

FIGURE 16

PROGRESSION OF STUDENTS
(N = 8,979)



Beginning of:	Fall 1975	Spring 1976	Fall 1976	Spring 1977	Fall 1977	Spring 1978
Graduates (cum.)[a]		13	159	238	793	1,070
Registrants[b]	8,979	6,503	4,308	3,653	2,342	1,784
Dropouts		2,471	4,590	5,181	6,081	6,464

[a] At the end of Spring 1978, there were 302 graduates. During the six semester period, there were 1,372 degrees awarded to 1,346 students by their campuses of entry. See Appendix F for details on the number of students who graduated at the end of each term.

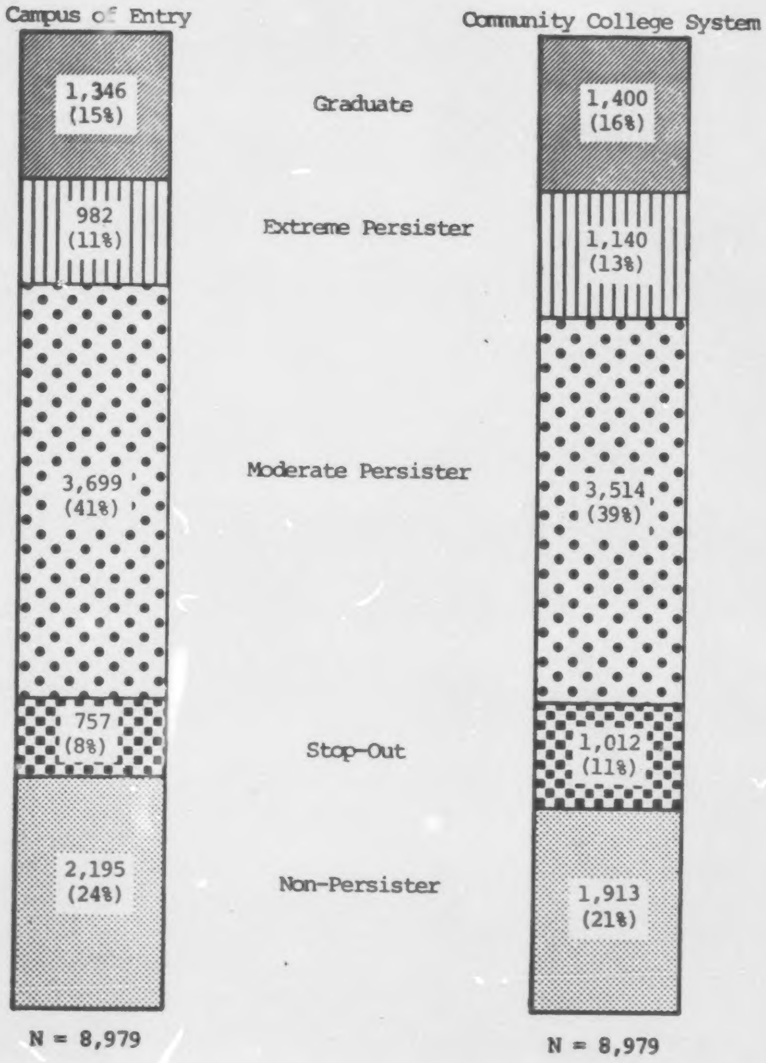
[b] Registrants included returning graduates: 8(Spring 1976), 78(Fall 1976), 93(Spring 1977), 237(Fall 1977), 339(Spring 1978).

B. Persistence

We analyzed the persistence of Fall 1975 entering students at the end of six semesters in terms of the community college total by campus of entry and within the community college system as a whole. For example, if a student entered Campus X in Fall 1975 and never returned during the remaining five semesters, he was classified as a non-persister at that campus. However, if he attended another community college in Spring 1976 and Fall 1977 and did not return or graduate, he was classified as a moderate persister within the community college system. The results are shown in Figure 17.

FIGURE 17

PERSISTENCE PATTERNS



As expected, the persistence patterns for the community college system, compared to those by campus of entry, showed:

- a decrease in non-persisters and moderate persisters
- an increase in stop-outs, extreme persisters and graduates

The remaining discussion in this section will focus on persistence patterns for the community college total by campus of entry. The following findings on persistence should be remembered about the Fall 1975 entering group:

- about a fourth left their campus of entry after one semester without graduating
- about a sixth earned either certificates of achievement, A.S. or A.A. degrees by the end of the sixth semester
- about a tenth attended their campus of entry for six consecutive semesters without graduating
- the remaining half attended their campus of entry for at least two semesters, including 8 percent who were stop-outs

I. Findings, by Characteristics

Findings on the persistence patterns for the community college total are presented in terms of the following ten characteristics of students: (a) sex and high school background; (b) age and entry status--at time of entry; (c) marital status, educational objective, program--during last semester in attendance; (d) full- or part-time status--average semester hours attempted during semesters in attendance (if 12 or more, student is considered "full-time"); (e) cumulative grade point average (GPA) and cumulative credit-completion ratio (CCR)--at end of all semesters in attendance.

The data in Table 20 summarize the persistence patterns of students by seven characteristics all of which proved to be statistically significant. Figure 18 shows the persistence patterns of students, by program, cumulative GPA and CCR. On the basis of these three characteristics, students were found to have significantly different persistence patterns.

An analysis of the data in Table 20 and Figure 18 shows that especially high proportions of the following sub-groups were:

- Non-Persisters
  - 22-24 years old at entry
  - unclassified students
  - cumulative GPA of below 2.0
  - cumulative CCR of below .50

TABLE 20

PERSISTENCE PATTERNS, BY SELECTED CHARACTERISTICS

Note: Omits "no data", so the sum of the sub-groups may not equal 8,979.

Characteristics[a]	Total Number	Non-Persister		Stop-out		Moderate Persister		Extreme Persister		Graduate	
		No.	H%	No.	H%	No.	H%	No.	H%	No.	H%
COMM. COLL. TOTAL	8,979	2,195	24%	757	8%	3,699	41%	982	11%	1,346	15%
SEX***											
Female	4,235	1,128	27%	369	9%	1,636	39%	390	9%	712	17%
Male	4,742	1,065	23%	388	8%	2,063	44%	592	13%	634	13%
ENTRY AGE***											
Below 19 years	3,806	673	18%	324	9%	1,599	42%	503	13%	707	19%
19-21 years	1,616	491	30%	131	8%	628	39%	120	7%	246	15%
22-24 years	846	318	38%	76	9%	290	34%	44	5%	118	14%
25-29 years	1,072	322	30%	104	10%	413	39%	118	11%	115	11%
Over 29 years	1,639	391	24%	122	7%	769	47%	197	12%	160	10%
MARITAL STATUS***											
Single	6,536	1,548	24%	558	9%	2,638	40%	712	11%	1,080	17%
Married	2,428	644	27%	199	8%	1,050	43%	270	11%	265	11%
Other	14	2	14%	0	0%	11	79%	0	0%	1	7%
HIGH SCHOOL BACKGROUND***											
Public, Oahu	4,406	963	22%	388	9%	1,881	43%	613	14%	561	13%
Public, N. I.	1,554	324	21%	105	7%	571	37%	127	8%	427	28%
Private, Hi. State	785	187	24%	68	9%	339	43%	83	11%	108	14%
U.S. Main./Poss.	1,165	397	34%	98	8%	445	38%	75	6%	150	13%
Foreign	418	133	32%	26	6%	180	43%	33	8%	46	11%
Other (GED)	651	191	29%	72	11%	283	44%	51	8%	54	8%
ENTRY STATUS***											
New	6,577	1,447	22%	569	9%	2,766	42%	816	12%	979	15%
Transfer	2,402	748	31%	188	8%	933	39%	166	7%	367	15%
ENROLLMENT STATUS***											
Full-time	4,896	815	17%	281	6%	2,126	43%	535	11%	1,139	23%
Part-time	4,083	1,380	34%	476	12%	1,573	39%	447	11%	207	5%
EDUCATIONAL OBJECTIVE***											
None	912	496	54%	101	11%	268	29%	20	2%	27	3%
Certificate	942	214	23%	77	8%	280	30%	78	8%	293	31%
Assoc. of Sciences	3,031	556	18%	212	7%	1,140	38%	410	14%	713	24%
Assoc. of Arts	4,093	928	23%	367	9%	2,011	49%	474	12%	313	8%

[a] Levels of significance, based on chi-square analysis, denoted thus: * .05 ** .01 *** .001.

FIGURE 18

PERSISTENCE PATTERNS, BY SELECTED CHARACTERISTICS

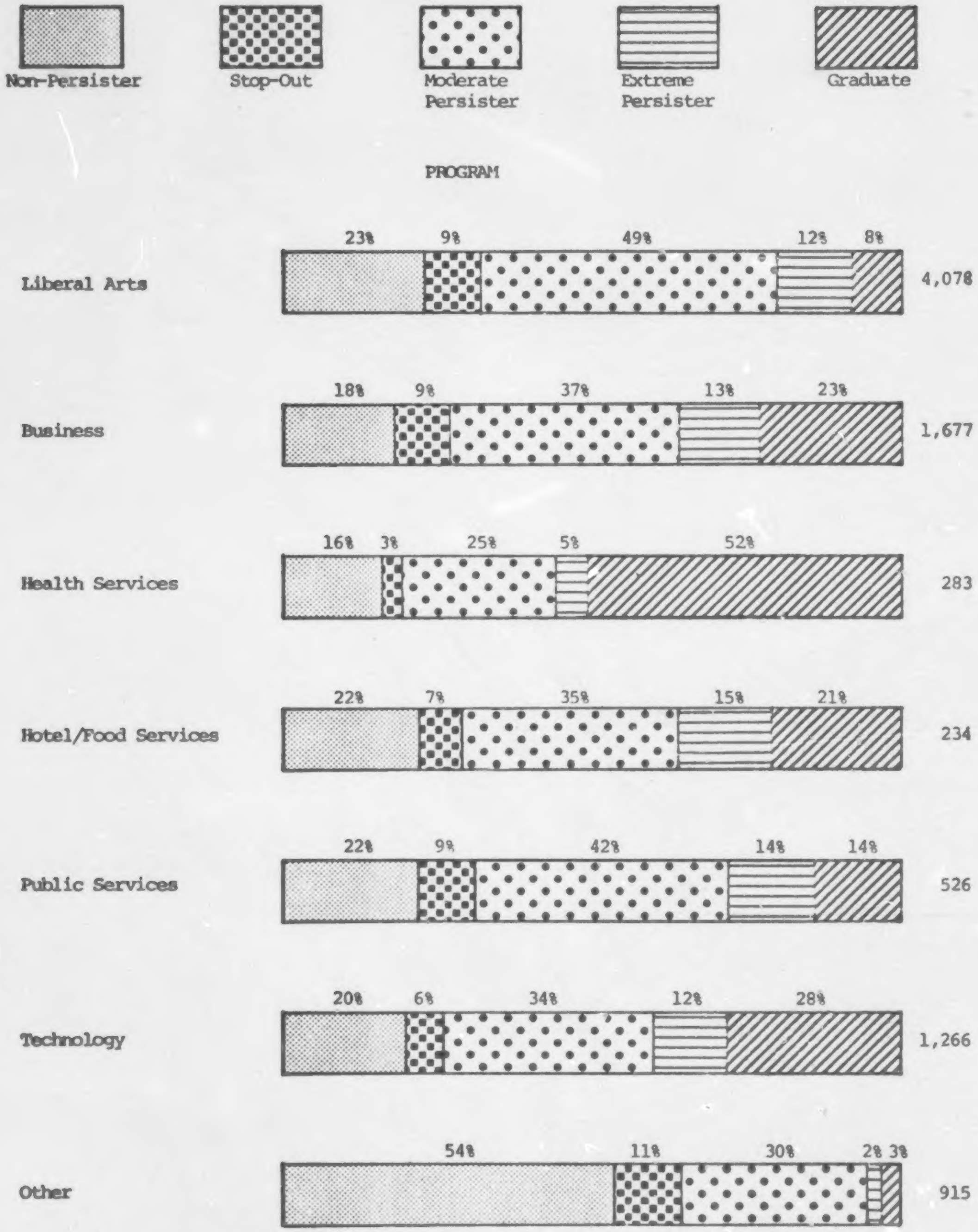
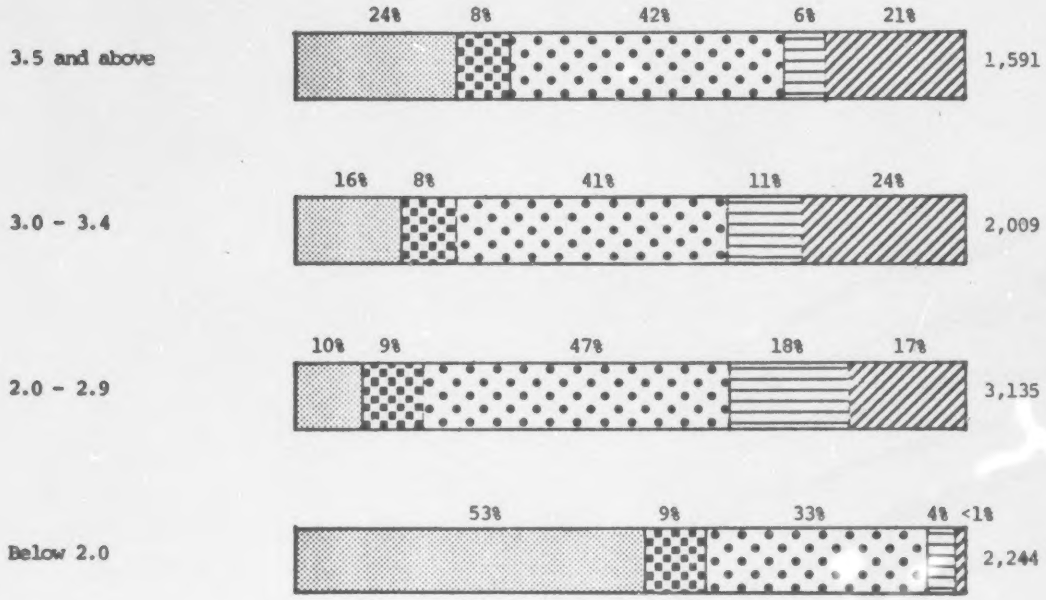
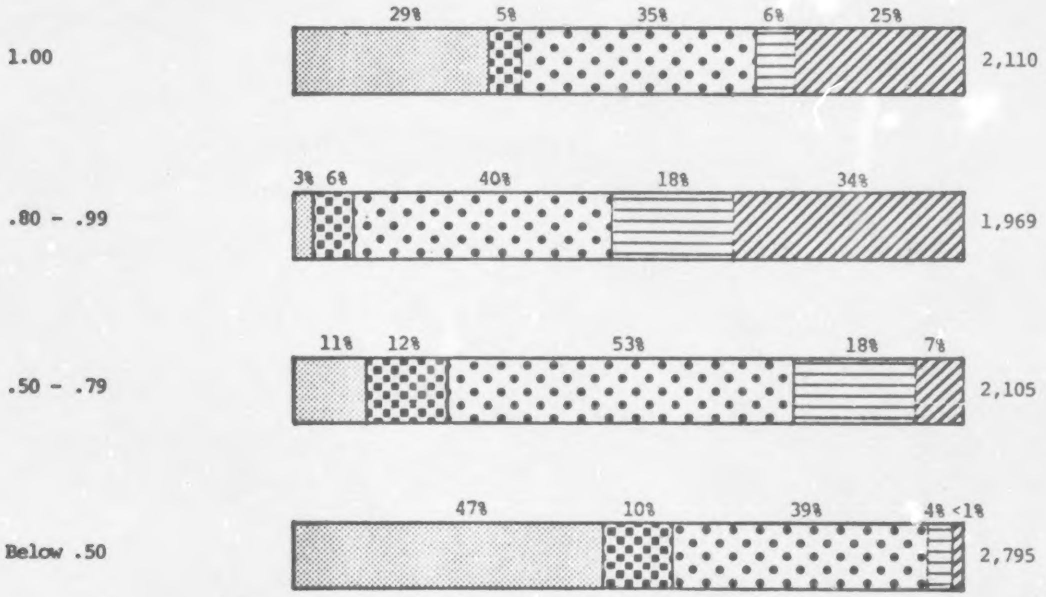


FIGURE 18 (Cont.)

CUMULATIVE GRADE POINT AVERAGE



CUMULATIVE CREDIT-COMPLETION RATIO



• Stop-Outs	GED students part-time students unclassified students cumulative CCR of .50-.79
• Moderate Persisters	divorced, widowed cumulative CCR of .50-.79
• Extreme Persisters	hotel/food services majors cumulative GPA of 2.0-2.9 cumulative CCR of .50-.79; .80-.99
• Graduates	public, Neighbor Island, high school graduates full-time students certificate candidates health services majors cumulative GPA of 3.0-3.4 cumulative CCR of .80-.99

A further analysis shows that:

- females tended to be either non-persisters, stop-outs or graduates; males to be moderate or extreme persisters
- high proportions of the young (below 19 years at entry), the single and the graduates of Hawaii's high schools were among extreme persisters and graduates
- full-time students tended to be moderate persisters or graduates
- associate degree candidates tended to be persisters; certificate candidates to be graduates
- health services majors tended to be graduates; unclassified students to be non-persisters
- students with GPAs of C or better and those with CCRs above .50 tended to be moderate or extreme persisters or graduates

We also studied persistence patterns in terms of selected groupings of characteristics. For example, we found, for both males and females, that higher proportions of single than married students were graduates. Compared to their male counterparts, married females had a higher non-persister rate and single females had a higher graduation rate. Astin likewise found that marriage had "differential effects" on dropping out among males and females. "Being married at time of college entry increases women's chances of dropping out by about 11 percent, but it *decreases* men's chances by about 8 percent."[3]

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[3] Astin, *Preventing*, *op. cit.*, p. 45.

We also found that males and females in the various programs differed significantly in their persistence patterns. To elaborate on this further, the non-persister and graduate rates are given below:

Program	Non-Persister Rates		Graduate Rates	
	Female	Male	Female	Male
Total	27%	23%	17%	13%
Liberal Arts	24%	22%	9%	7%
Business	19%	17%	28%	11%
Health Svcs.	15%	22%	57%	22%
Hotel/Food Svcs.	18%	23%	30%	17%
Public Svcs.	27%	18%	10%	16%
Technology	22%	20%	16%	30%
Unclassified	57%	49%	3%	3%

In most programs (except health and hotel/food services), females had higher non-persister rates than males, especially among public services and unclassified students. Females also had higher graduation rates in all programs but public services and technology, both of which enrolled high proportions of male students. The highest graduation rate for females was among health services majors (57 percent); for males, technology (30 percent).

An analysis was also made of the persistence patterns of students who changed campuses or who changed majors. Rates for both extreme persisters and graduates were high for those who changed majors as shown below for the community colleges as a whole:

	Number	Rates	
		Extreme Persister	Graduate
Total	8,979	13%	16%
Changed campuses	799	22%	12%
No change of campus	8,180	12%	16%
Changed majors	2,013	22%	23%
No change of majors	6,966	10%	14%

2. Findings, by Continuing Student Survey Responses

In Spring 1976, four campuses (Hawaii, Honolulu, Maui and Windward) surveyed continuing students who entered in Fall 1975.[4] At the end of six semesters, an analysis was also made of the persistence patterns of these continuing students in terms of their survey responses.

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[4] A summary of this survey was presented in Report No. 5 of the Student Flow Project.

We found that continuing students differed significantly in their persistence patterns in terms of their responses regarding (a) reasons for selecting their campus of entry and (b) plans for Fall 1976. The two most common reasons for selecting campuses were:

- 49% close and convenient location
- 35% availability of desired program or courses

The data in Table 21 also show that:

- The graduation rate for Spring 1976 continuing students was 26 percent, and it was exceeded by students who selected their campuses for the following reasons: (a) desired program or courses available (30 percent) and (b) low cost (28 percent).
- Over four-fifths of the students planned to return to their campus the following semester (Fall 1976), and the graduation rate for this group was 28 percent.

TABLE 21

PERSISTENCE PATTERNS, BY CONTINUING STUDENT SURVEY RESPONSES

Survey Response[a]	Total	Non-Persister[b]		Stop-Out		Moderate Persister		Extreme Persister		Graduate	
		No.	H%	No.	H%	No.	H%	No.	H%	No.	H%
REASON FOR SELECTING COLLEGE**	2,091	13	1%	126	6%	1,131	54%	279	13%	542	26%
Close & convenient	1,015	7	1%	68	7%	550	54%	135	13%	255	25%
Low cost	129	0	0%	7	5%	77	60%	9	7%	36	28%
Program/course avail.	732	3	<1%	40	6%	362	50%	107	15%	220	30%
Other	215	3	1%	11	5%	142	66%	28	13%	31	14%
FALL 1976 PLANS***	2,087	14	1%	127	6%	1,126	54%	279	13%	541	26%
Return to campus	1,720	10	1%	106	6%	863	50%	252	15%	489	28%
Transfer	206	3	2%	11	5%	159	77%	10	5%	23	11%
Work	84	0	0%	4	5%	47	56%	12	14%	21	25%
Other	77	1	1%	6	8%	57	74%	5	7%	8	10%

[a] Levels of significance, based on chi-square analysis, denoted thus: * .05 ** .01 *** .001.

[b] These students were in attendance at the beginning of Spring 1976 but did not complete the semester.

Continuing students were asked to select which of 16 goals were important to them and to indicate the extent to which their important goals were fulfilled. On only one goal did students differ significantly in their persistence patterns: "to be trained for an occupation." Of the 1,232 students who considered this goal important, 719 (58 percent) rated their expectation as well fulfilled. Most of these 719 students became either moderate persisters (44 percent) or graduates (35 percent).

The Continuing Student Survey also provided students with an opportunity to evaluate their community college experience on 11 items. On only one, "helpfulness of counselors," did students differ significantly in their persistence patterns. Of the 1,607 students who rated this item, 931 (58 percent) felt counselors were "very helpful in choosing occupation or major field," ranging from 69 percent of the stop-outs to 55 percent of the graduates. The less favorable rating by the graduates is noteworthy. Most of the 931 students who rated the item favorably became moderate persisters (51 percent).

The literature on attrition indicates that some studies have found that retention is related to student goals and student satisfaction with the college experience. Our analysis of responses on the Continuing Student Survey supports this view to a limited extent.[5]

E. Concluding Comment

1. Major Findings

We were not surprised to find that there were significant differences in the persistence patterns of students on all ten characteristics--sex, age, marital status, high school background, entry status, full-/part-time status, educational objective, program, cumulative grade point average and credit-completion ratio.

Although we did not dicuss our findings, by campus, in this report, we found great diversity in persistence patterns among students in similar programs on different campuses. However, two characteristics--GPA and CCR--were found to be significantly related to persistence patterns of students in most programs on all campuses. We should remember, however, that both of these characteristics partially reflect differing campus practices and policies. For example, the proportions of students who had GPAs of 3.5 and above ranged from 14 to 27 percent among the campuses.

We used these findings on persistence to explore the possibility of identifying potential dropouts. The results of our efforts are discussed in Section VII.

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[5] Mercer County Community College found that "comparison of satisfaction levels of non-returning students, persisters and graduates has yielded no . . . differences [in satisfaction with the institution]." (E. Timothy Lightfield, "They Do Come Back! Enrollment Tracking at the Community College" in Information for Decisions in Postsecondary Education, 15th Annual Forum of the Association for Institutional Research [1975], p. 258.)

We also found that the persistence patterns of Fall 1975 entering students were similar to those who entered a year earlier. These findings should be used as baseline data for comparing the patterns of entering groups in future years.

These data on the persistence of Fall 1975 entering students are noteworthy: about a fourth attended their campus of entry for only one semester; about one-sixth graduated by the end of six semesters; about a tenth attended six consecutive semesters without graduating; the remaining half attended for two or more semesters (including 8 percent who were stopouts). It is difficult to evaluate these findings because we do not have specific goals or historical data on persistence. It may therefore be helpful to become acquainted with the results of other studies on persistence.

2. Results of Other Studies

Our examination of the persistence of students entering the community colleges in Hawaii took place shortly after an extensive undertaking by California which covered a sample of approximately 34,000 community college students who entered in 1972.[6] Although the characteristics of students in Hawaii and in California were not identical, they were similar on sex and marital status but not on age, part-time status and cumulative grade point average. The persistence patterns of both groups at the end of six semesters were quite different:

	Hawaii 1975 Group	California 1972 Group
Non-Persister	24%	35%
Stop-Out	8%	19%
Moderate Persister	41%	32%
Extreme Persister	11%	6%
Graduate	15%	8%

California's higher non-persister rate may partially be due to its large proportion of part-time students (63 percent) and older students (56 percent were over 24 years of age at entry).

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[6] California Postsecondary Education Commission, Through the Open Door; A Study of Patterns of Enrollment and Performance in California's Community Colleges; Final Report (February 1976).

Other large-scale studies of persistence which included separate data for community colleges were Astin's study of college dropouts, a study reported by the National Commission on the Financing of Postsecondary Education and The National Longitudinal Study of the High School Class of 1972:[7]

- Astin's study covered Fall 1966 entering students in 217 institutions, including two-year colleges. Four years later, 37 and 41 percent of males and females, respectively, had received associate degrees.

- The National Commission on Financing Postsecondary Education reported on the 1967 Freshman Survey of the American Council on Education and indicated that: (a) two-thirds of the students who entered in Fall 1967 returned for a second year and (b) two-fifths had received a degree or were still enrolled four years later.

- The National Longitudinal Study of High School Seniors focused on 1972 entering students and summarized the extent of graduates in 1974--two years after entry: 11 and 18 percent of white males and females, respectively, had completed associate degrees; 14 and 10 percent of black males and females, respectively, and 5 and 9 percent of Hispanic males and females, respectively, did likewise.

Several institutions conducted progression and persistence studies, and the results of a few are given below:[8]

- Los Angeles City College: The Fall 1967 entering group (sample of 397) was studied for three years. The following proportions completed the:

1st semester	90%
2nd semester	71%
3rd semester	48%
4th semester	39%
5th semester	16%

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[7] Alexander Astin, College Dropouts, op. cit.; The National Commission on the Financing of Postsecondary Education, Financing Postsecondary Education in the United States (Washington, D. C.: U. S. Government Printing Office, December 1973), p. 157; U. S. Department of Health, Education, and Welfare, The National Longitudinal Study, op. cit.; Sandra L. Drake, "Research Report," Community and Junior College Journal (May 1978), p. 62.

[8] Ben K. Gold, "Persistence of L.A.C.C. Students Entering in Fall, 1967" (September 1970); Paul G. Larkin, "Student Flow at the Community College" in Information for Decisions in Postsecondary Education, op. cit., pp. 266-68; Lightfield, op. cit., pp. 253-58.

The following proportions received A.A. degrees after the:

4th semester	3%
5th semester	8%
6th semester	12%

Female persistence was higher than that of males, and the relationship between SCAT performance and persistence was "not clear." (p. 24)

- Prince George's Community College: The Fall 1970 entering group (2,416 students) was studied for three years. At the end of that period, attendance patterns were summarized thus:

One-time attenders		26%
Attended beyond Fall 1970		72%
Straight thru	(54%)	
In- and out	(18%)	
Unknown		1%

- Mercer County Community College: Fall 1972 entering students were studied for seven semesters and plans were made to extend this to 10 consecutive semesters. The following proportions were in attendance and earned associate degrees:

	Attended	Graduated
2nd semester	79%	
3rd semester	54%	<1%
4th semester	47%	
5th semester	18%	17%
6th semester	14%	<1%

Graduation rates by the end of six semesters for full-time students were 29, 25 and 32 percent, respectively, for groups entering in Fall 1969, 1970 and 1971.

What is evident from the studies above is the variety of findings on persistence from institution to institution. This should not be surprising because persistence is closely related to the characteristics of entering students and the programs offered by a particular community college. It is clear, however, that students generally took more than four semesters to earn associate degrees. It is also evident that "many community college students intend to complete only one or several courses, rather than earn a degree. These students are not dropouts after finishing the courses they intended to complete, because they have accomplished their goals."[9]

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[9] Lightfield, op. cit., p. 258.

3. The Task

Findings from our study, as well as those in the literature, should be analyzed by campus personnel. The challenge may be to prevent or minimize the non-persistence rate among certain sub-groups of students. This approach affects both the quantitative and qualitative aspects of persistence.

Faculty members in the various programs should be involved in evaluating the persistence patterns of their students and in developing goals regarding persistence. For example, is a non-persister rate of x% "acceptable" in view of the nature of entering students and the requirements of a specific program? What should be the graduation rate? One obvious reminder bears repeating: Attrition per se is not "bad."

> . . . While attrition represents the potential loss of resources and a loss or postponement of trained persons for society, there is no clear evidence that non-return to college is necessarily harmful for the student or tragic in the individual's career pursuit (Hahn, 1974). There is no empirical justification for a claim that a completed associate degree is a pre-condition for job security or that the non-returning student is doomed to failure in life. . .[10]

It is also important to remember that earning a degree may not be the goal of many community college students. A study at Harford Community College in Maryland revealed that while 27 percent of entering students had graduated within seven semesters after Fall 1970 entry, 63 percent indicated that they had "achieved their primary educational objective. . . Non-graduates said that their education increased theoretical understanding and skills required in their jobs. They also experienced increases in salary."[11]

Throughout any policy formulation on persistence should be the awareness that student progression and persistence are complex, influenced by many factors which are external to the institution and therefore not subject to institutional action. Furthermore, there is no quantitative standard to measure what is a good or poor persistence rate. What is important is that the data be deliberated upon, so that institutional practices or weaknesses do not discourage or obstruct persistence. The more positive approach would be to consider ways in which persistence might be promoted or encouraged. In such an exploration, both instruction and student services and their interrelationships need to be considered. In order for institutions to evaluate their efforts, periodic, if not continuing, studies of student progression and persistence should be undertaken.

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[10] Ibid.

[11] James C. Tschechtelin, "Student Follow-Up Study: First-Time Students, 1970" (Bel Air, Maryland: Harford Community College, March 1975), p. 35.

VII. IDENTIFYING THE POTENTIAL DROPOUT

One of the purposes of the Student Flow Project is to identify the characteristics of entering students that predict dropping out after the first semester or dropping out before graduating. A relevant study was undertaken in the 1960's by Nor Cal, a consortium of 28 California community colleges. In addition to describing the characteristics associated with attrition during the initial period of enrollment, Nor Cal was also interested in using those findings to develop and validate a predictive model of attrition. The key variables were: sex/ability, importance of college to a student, race, college major and parental support. The conclusion: "It is clear that ability and motivation remain the central elements in the prediction of attrition."[1]

One of the best known researchers on predicting academic performance in college is Alexander Astin. In a 1971 publication he showed how a student's college achievement and his dropout probability could be predicted from his characteristics as a high school student.[2] In Preventing Students from Dropping Out (1975) the emphasis was on helping students to finish college. In that book Astin indicated that: Previous . . .studies suggest that a number of student background characteristics may be predictive: ability, secondary school grades, socioeconomic status, and educational aspirations, as well as the students' own predictions about their chances of finishing college."[3]

Although student records in Hawaii's community colleges do not include data on the characteristics cited above, we explored the possibility of identifying potential dropouts among students new to higher education (excludes transfers). We were specifically interested in identifying liberal arts and vocational education students who might drop out after the first semester or before graduating.

As part of the Student Flow Project, data on the following nine characteristics were gathered on new students, by campus: sex, age at entry, marital status, high school, program, educational objective, full-/part-time status, grade point average and credit-completion ratio. Our studies of persistence patterns after six semesters[4] indicated that they were significantly related to each of the student characteristics.

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[1] Thomas F. MacMillan, "NORCAL: The Key is Cooperation," Junior College Journal, Vol. 40 (1970), p. 29.

[2] Alexander W. Astin, Predicting Academic Performance in College; Selectivity Data for 2300 American Colleges (New York: The Free Press, 1971).

[3] Astin, Preventing, op. cit., p. 22.
Another source which might be of interest is: Sidney H. Davidson, Jr., Predicting Community College Persistence (Ed.D. Dissertation, University of California, Berkeley, 1974).

In view of this major finding, we decided to undertake multiple regression analysis. "Multiple regression is a general statistical technique through which one can analyze the relationship between a dependent or criterion variable and a set of independent or predictor variables."[5] Our dependent variables were two: enrollment in the second semester and graduation; our predictor variables were student characteristics.

A. Our Approach

In developing multiple regression equations to predict (1) enrollment in the second semester and (2) graduation, we made the following decisions:

- There would be separate equations for liberal arts and for vocational education students.[6]
- There would be separate equations for each campus.
- All of the characteristics, except high school,[7] would be used as possible predictors, and these variables would enter the regression analysis in a stepwise fashion.[8] SPSS (Statistical Package for the Social Sciences) would be used in conducting the regression analysis.
- Separate regression analysis would be made of Fall 1974 and Fall 1975 new students in the community colleges.

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[4] See Section VI of this report.

[5] Norman H. Nie, et al, SPSS: Statistical Package for the Social Sciences, Second edition (New York: McGraw-Hill Book Company, 1975), p. 321.

[6] Although it might be more helpful for each campus to have an equation for each vocational education program (business education, health services, hotel/food services, public services, technology), we decided that sample size should be large. "The rule . . . is to use large samples--over 100 and preferably 200 or more--and independent variables whose intercorrelations are as low as possible." (Fred N. Kerlinger and Elazar J. Pedhazur, Multiple Regression in Behavioral Research (New York: Holt, Rinehart and Winston, Inc., 1973), p. 442.

[7] See page 87.

[8] See page 87.

We were not very optimistic about the usefulness of our regression analysis to predict dropout behavior because we lacked data on the scholastic ability of our students as well as on their high school grades. The National Longitudinal Study concluded that "high school grades are more strongly related to withdrawal behavior than standardized test scores.[9] Astin's extensive study of dropouts indicated that high school grades were "the most consistently potent predictor of college attrition."[10]

B. The Results[11]

"The overall accuracy of the prediction equation is reflected by R^2, the proportion of variation explained by the variables included in the

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[7] Since our community colleges are located on different islands, there are significant differences in the high school backgrounds of entering students.

[8] The stepwise regression procedure involves "the re-examination at every state of the regression of the variables incorporated into the model in previous stages. A variable which may have been the best single variable to enter at an early stage may, at a later stage, be superfluous because of the relationships between it and other variables now in the regression. To check on this, the partial F criterion for each variable in the regression at any stage of calculation is evaluated and compared with a preselected percentage point of the appropriate F distribution. This provides a judgment on the contribution made by each variable as though it had been the most recent variable entered, irrespective of its actual point of entry into the model. Any variable which provides a nonsignificant contribution is removed from the model. The process is continued until no more variables will be admitted to the equation and no more are rejected." (N. R. Draper and H. Smith, *Applied Regression Analysis* (New York: John Wiley and Sons, Inc., 1966), p. 171.)

[9] *Op cit.*, p. 92.

[10] Astin, *Preventing*, *op. cit.*, p. 30.

[11] Astin's dropout study (dropping out before graduating from a four-year college) had the following multiple correlations: "white men ($R = .379$); white women ($R = .382$); blacks in black colleges ($R = .386$); and blacks in white colleges ($R = .540$)." (Astin, *Preventing*, *op. cit.*, p. 29.) Astin used 52 variables in his analysis; the last 20 or 25 added only a "small amount of precision to the estimates." All variables that contributed anything of statistical significance ($P<.05$) were included.

regression equation."[12] We found the following multiple R and R^2 values for the community colleges as a whole:

	1974 Students		1975 Students	
	Mult. R	R^2	Mult. R	R^2
Liberal Arts (No. of Students)	(3,261)		(3,292)	
2nd semester enrollment	.4165	.1735	.4327	.1872
Graduation	.2701	.0730	.2412	.0582
Vocational Education (No. of Students)	(2,204)		(2,751)	
2nd semester enrollment	.5041	.2541	.4952	.2452
Graduation	.4521	.2044	.4649	.2161

R^2 values for both years are higher for vocational education than for liberal arts for both second-semester enrollment and for graduation. Not surprising are the higher values for second-semester enrollment than for graduation.[13]

The general form of a multiple regression equation is:

Predicted Score = constant + (regression weight for first variable X first variable) + (regression weight for second variable X second variable) + . . .

Regression weights, based on Fall 1975 new students, are found in Appendix G for the community colleges as a whole and for each campus. To illustrate, let us estimate the chances of enrolling in the second semester for Tom, who attends Honolulu Community College, is male, unmarried, 18 years old at entry, pursuing an A.S. degree in technology, carries a full-time load, earns a GPA of 3.4 and completes 90 percent of his credits.

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[12] Nie, op. cit., p. 331.

[13] While the data for Fall 1974 and Fall 1975 students are quite similar for the community colleges as a whole, there are variations in the multiple correlations of the programs, by campus.

For one campus, we used the scores (comprehension, vocabulary, total) of new students on the Nelson-Denny Reading Test as predictor variables. For both liberal arts and vocational education students, multiple correlations increased with the use of these scores. However, the increases were very slight except for predicting chances of second-semester enrollment for vocational education students.

We turn to Appendix G, specifically to the table, "Predicting Chances of Enrolling for the Second Semester," refer to the regression weights for vocational education students under Honolulu Community College as well as to the scoring of variables:

$$\text{Tom's predicted chance} = \overset{\text{constant}}{.0311} + \overset{\text{male}}{(.0376 \times 2)} + \overset{\text{unmarried}}{(-.0212 \times 1)}$$

$$+ \overset{\text{18 yrs.}}{(-.0274 \times 1)} + \overset{\text{A.S.}}{(.0348 \times 2)} + \overset{\text{full-time}}{(.1685 \times 2)}$$

$$+ \overset{\text{3.4 GPA}}{(.0553 \times 3)} + \overset{\text{.90 CCR}}{(.0983 \times 3)}$$

$$= .0311 + .0752 - .0212 - .0274 + .0696 + .3370$$

$$+ .1659 + .2949$$

= .9251 or 92% chance that Tom will enroll in the second semester

If Tom had been enrolled at Hawaii Community College, his predicted chance of enrolling for the second semester would be 82 percent. Had Tom been a liberal arts student, pursuing an A.A. degree, at Leeward Community College, his predicted chance would be 95 percent. It is evident that students with identical characteristics might fare differently, depending on whether they were liberal arts or vocational education students and whether they were at Campus A or Campus B.

A similar approach can be used in predicting chances of graduating, particularly for vocational education students, by referring to the table in Appendix G, "Predicting Chances of Graduating."

C. Concluding Comment

The results of our regression analysis should be helpful to campus personnel and students interested in predicting their chances of continuing their enrollment in the second semester. Since data on both grade point average and credit-completion ratio for the first semester are not available till the end of the term, we suggest that students estimate these variables. This could effectively be done at mid-term, possibly as part of the orientation program for new students.

We urge caution in predicting graduation for liberal arts students because of the relatively low multiple correlation between the dependent and predictor variables. This is not true regarding predictability of graduation for vocational education students. We urge them to calculate their chances of graduating by the end of six semesters.

We recognized the limitations of our data and were not sanguine about this phase of the Student Flow Project. We need not have been pessimistic about the lack of data on scholastic aptitude and high school grades and the use of only seven variables in our regression analysis. We were pleased to find that the results of our analysis could be used for predicting (1) enrollment in the second semester for both liberal arts and vocational education students and (2) graduation by the end of six semesters for vocational education students.

This effort to identify potential dropouts may be useful to students in exploring their chances of continuing their enrollment. These are probabilities, not certainties, and students should be aware of the usefulness and limitations of such predictions. It may help them to be aware that continuing enrollment and graduation are heavily dependent on college grade point average, number of credits carried and proportion of credits earned.

Campus personnel--particularly those in instruction and student services--should begin to identify the potential dropout as early as possible, preferably not later than mid-semester. Early identification should spur campus attempts to develop programs to assist potential dropouts who need help. Both instructors and counselors should be involved in such efforts. It may also be necessary to evaluate the academic support services of the campus as well as its developmental education and orientation programs.

VIII. CONCLUSIONS AND RECOMMENDATIONS

At the very outset, and throughout the life of the Student Flow Project, we were motivated by the following major purposes:

- to obtain baseline data on the progression and persistence of Fall 1975 entering students, by various characteristics, and to develop a system for conducting similar studies of entering groups in the future
- to seek information from exiting students, both graduate and dropout, concerning their activities and evaluation of their community college experiences
- to encourage campus personnel to examine the data, to consider policies on retention and attrition, to become more aware of the importance of the institutional environment on dropout decisions and to explore ways of improving instruction and student services so as to enrich teaching/learning conditions on their campus

Hawaii's open door colleges attract a clientele with varying aspirations, interests and abilities. Some students do not intend to pursue degree work--they may be interested in taking one or more courses only during a given semester. Others may be pursuing "terminal" degrees; still others may be using the community colleges as only one of the institutions they plan to attend in pursuit of academic goals. We also know that stopping out is characteristic of some students. Under these circumstances, it is easy to expect a high dropout rate, but the danger of such an attitude may be complacency. Tinto concluded, on the basis of the literature, that "it is . . . fairly clear that two-year colleges have higher dropout rates than do four-year colleges, even after student input characteristics have been taken into account. . . .Some authors have concluded from this that it may well be the function of two-year colleges to screen-out, or cool-out, students from going on to senior college."[1]

Astin elaborated on the nature of the community colleges as being "commuter institutions [which] presumably provide relatively low-cost, easy-access higher education . . . But one pays a certain price for such easy access to postsecondary education. By minimizing the disruption in the student's outside life, involvement in the educational process is likewise decreased."[2] Astin believes this "reduction in the socializing effects of the traditional collegiate experience" is not the "ideal undergraduate education" for the 18-year old, just out of high school, interested in pursuing a baccalaureate degree on a full-time basis.

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[1] Op. cit., p. 112.

[2] Preventing, op. cit., p. 167.

Thornton indicated that:

> The open-door admission policy has been both the proudest claim and the knottiest dilemma of the community junior college. . . . Should the open door for some applicants be simply a revolving door, or an entrance to a vestibule from which all doors are closed? . . . How can the open door provide access to real opportunity and not merely to one more experience of scholastic frustration and defeat? . . . should all these questions be evaded by . . . establishing pre-conditions for admission that would eliminate many of the difficulties posed by the "open door"?[3]

Instead of restricting admissions, Thornton suggested that a more positive approach would be to adapt the curriculum to the needs of the less academic student. Another suggestion was made by Enarson who is interested in preventing "the open door of opportunity to become the revolving door of failure": the goal of public universities "must be to guarantee a reasonable chance for success for many students who otherwise would fail." However, "the final responsibility for learning rests squarely on the learner. . . . We . . . have the obligation to try to provide the best possible environment for learning. We can try to motivate, encourage, and assist. But we cannot learn for the student."[4]

This focus on institutional responsibility is becoming an especially popular theme on some campuses which are "beginning to see financial benefits in keeping students from dropping out of their institutions," particularly in view of the decline of 19-year olds in the next decade. "Crash programs to increase retention are part of a major push at many universities to keep classrooms full."[5]

Lee Noel, a vice-president of the American College Testing Program, pointed to the need for improving student services as one means of increasing student retention. He believes that "most colleges can reduce student attrition by 6 to 8 percent," but many students will drop out in spite of institutional improvements because "they selected the college for the wrong reasons."[6]

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[3] *Op. cit.*, pp. 290-91.

[4] Harold L. Enarson, "The Open Door Must Not Become a Revolving Door," *The Chronicle of Higher Education* (November 13, 1978).

[5] Lorenzo Middleton, "With Freshmen Scarcer, Emphasis Shifts to Keeping Present Students," *The Chronicle of Higher Education* (October 30, 1978), pp. 1, 6.

[6] *Ibid.*, p. 6.

From our own study of progression and persistence in the community colleges and from the literature on attrition, we know that both institutional and individual characteristics, as well as external factors, affect the dropout decisions of students. We also assume that campuses which strive to improve their teaching/learning environment may be able to provide more favorable college experiences for all students and, at the same time, affect the retention rate both quantitatively and qualitatively. The rate may be increased (quantitative), particularly for some sub-groups of students (qualitative), as campuses are able to meet their needs more effectively.

The following section focuses on factors that affect retention based on a review of the recent literature. This is followed by (1) conclusions we have reached from evaluating our data and (2) related recommendations which we urge campus personnel to consider in exploring ways of improving their programs and services. There is also a set of recommendations regarding future student flow studies in the community colleges.

A. Factors Affecting Retention

The literature is replete with suggestions on ways to increase retention by improving institutional practices and the college environment. Some of these are presented below to show the variety of approaches that have been advanced to promote the academic and/or social integration of students with campus life. While this discussion is merely the "tip of the iceberg", its inclusion provides some background for the conclusions and recommendations resulting from our Student Flow Project.

1. Philosophy of the College

"College student retention is a campus-wide responsibility. It starts with an attitude that suggests the institution exists to serve students. This attitude should permeate the entire campus . . . Everyone on the campus--faculty, administrators and support staff--has an important contribution to make as a potent retention agent."[7]

Knoell raised questions that should be answered "frankly and fully" in order to develop a philosophical framework. They dealt with admission procedures, faculty attitudes on the first semester ("rough, do-it-yourself proving ground . . . or period of difficult adjustment") and institutional willingness to examine its policies and procedures.[8]

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[7] Lee Noel, editor, Reducing the Dropout Rate (San Francisco: Jossey-Bass, Inc., 1978), p. ix.

[8] "Institutional Research," op. cit., pp. 60-61.

Pantages and Creedon recommended "greater use of existing college environment assessment devices to identify those aspects of the environment that create student dissatisfaction, which in turn increases the likelihood of dropping out."[9] This kind of activity might assure students that their colleges were interested in their evaluation of the learning environment.

2. Instruction and Instructors

"It is increasingly apparent that the most important features of a 'staying' environment relate to the instructional faculty. Students make judgments about their academic experience on the basis of such factors as quality of instruction, freedom to contact faculty for consultation, availability of faculty for consultation, and faculty involvement outside the classroom."[10] Noel also recommended that there be evaluation of teaching by students.

Roueche proposed that students and teachers should have equal responsibility for student performance.[11] Astin pointed to "boredom with courses" as a reason given most frequently by students for leaving college. "While boredom may be a socially acceptable rationalization for leaving college, it also indicates noninvolvement . . . institutions would be well advised to undertake studies of reasons for student boredom, including poor teaching, uninteresting courses, superfluous requirements, and so forth."[12]

Very specific suggestions for instructors were also found in the literature: offer early semester activities which enable students to experience success; counsel students who miss classes the first week of the term; confer with students who are missing assignments and/or failing; be available for conferences at times convenient to students.[13]

Other authors emphasized the importance of maximizing faculty-student interaction, especially during the first year. "Greater involvement of the faculty in the orientation program, and more care in the assignment of faculty advisors are ways of increasing both the quantity and quality of faculty-student relationships."[14]

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[9] Op. cit., p. 95.

[10] Noel, op. cit., pp. 96-97.

[11] John E. Roueche, A Modest Proposal; Students Can Learn (San Francisco: Jossey-Bass, Inc., 1972), p. 71.

[12] Preventing, op. cit., pp. 148-49.

[13] Lynn Willett, "Non-Persisting Student Follow-Up" (Palos Hills, Illinois: Moraine Valley Community College, March 1973), p. 2.

[14] Pantages and Creedon, op. cit., p. 96.

John Roueche, who has been involved in remedial programs for more than a decade, recently wrote:

> Everyone agrees that there is a problem in American education: More and more students are graduating from high schools each year without the basic skills necessary to survive, let alone succeed, in a rapidly developing technological society. Not only do they lack job-related skills as a result of public schooling, many of them are functional illiterates. . . . Surprisingly, many colleges are now finding ways to succeed with problem students; some of the most notable successes are occurring in community colleges, where students with the most difficult learning problems enroll.[15]

Students with academic deficiencies and problems (disadvantaged, nontraditional, high risk) were often placed in "remedial" or "compensatory" programs, reflecting the philosophy that these students were "deficient." Although the "current preferred term . . . is developmental, this change in terminology, unfortunately, rarely reflects a change in philosophy."[16] Supporters of this approach recognize the importance of self-concept development in student learning, and developmental education programs are experiencing some success in improving the persistence of high risk students.

Still another proposal, necessitated somewhat by the success of colleges to attract "new students", was advanced by Patricia Cross:

> . . . we [should] reverse the present trends to certify that all students were exposed to the same curriculum, certifying instead that students are high performers in quite disparate areas of accomplishment. There must be no compromise on quality of performance, but it is essential to permit wide individual variation in choice of subjects . . . .
> . . . The world's work can be roughly catalogued under three major headings . . . To put it as directly as possible, we need people to work with people; we need people to work with things; and we need people to work with ideas. I propose that we aim for an ultimate goal in which each citizen attains excellence in one sphere and at least minimal competence in the other two.[17]

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[15] John E. Roueche and Jerry J. Snow, Overcoming Learning Problems: A Guide to Developmental Education in College (San Francisco: Jossey-Bass, Inc., 1978), pp. 1-2.

[16] Ibid., p. 13.

[17] Patricia K. Cross, Beyond the Open Door: New Students to Higher Education (San Francisco: Jossey-Bass, Inc., 1971), pp. 164-65.

3. Student Personnel Services

The importance of the "fit" between student and institution was reflected in the recommendations that: (a) "counseling needs to begin in high school. Students need to be helped to discover their aspirations, needs, and skills, and explore alternatives."[18] (b) "More comprehensive orientation programs for new students are needed . . . and colleges should move away from one-shot orientation programs and toward programs scheduled at critical points throughout the academic year (such as every grading period and at the end of each term). Orientation programs should focus on those attitudinal and motivational variables that have been found to contribute to attrition."[19]

Academic advising was identified by one writer as a "cornerstone of student retention. The academic adviser serves as a coordinator of the educational experience. The adviser needs the ability to help students define and develop realistic goals, to perceive their needs accurately, and to match these needs with appropriate institutional resources. This is best done in the context of a caring and trusting relationship."[20] Another author stated that "students need the information, warnings, support, and follow-through that will allow them not only to negotiate the academic bureaucracy but to survive in it . . . and this means, in many cases, guidance rather than therapeutic counseling."[21] This is not to deny the important role of counselors in helping students to develop positive self-concepts or to improve their study habits.

Recently greater interest has developed in career or vocational counseling for students who are undecided about their fields of study or vocational choices. There is also greater appreciation of the value of employment as a means of increasing persistence. "Institutions should make every effort to increase the number and type of on-campus jobs, but the hours worked should be limited."[22]

Suggestions have also been made to re-examine the financial aid program. Astin indicated that "where possible, loans should be avoided in favor of other sources, particularly for men. Although grant support is associated with small increases in persistence, it is . . . an expensive form of aid compared to loans."[23] Pantages and Creedon recommended that colleges should modify their financial aid programs "to provide grants, even if in smaller amounts, to more students."[24]

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[18] National Longitudinal Study, op. cit., p. 113.

[19] Pantages and Creedon, op. cit., p. 94.

[20] David S. Crockett, "Academic Advising: A Cornerstone of Student Retention" in Reducing the Dropout Rate, op. cit., p. 30.

[21] William Moore, Jr., Community College Response to the High-Risk Student: A Critical Reappraisal, "Horizons Issues" Monograph Series (Washington, D. C.: American Association of Community and Junior Colleges, 1976), p. 21.

[22] Astin, Preventing, op. cit., p. 156.

Noel pointed to the failure of advising programs to detect potential dropout decisions and to intervene on a timely basis. "An early warning system can provide the means of transforming a traditionally passive approach to student support services to an active, interventive effort." Activities as the following might be included in such an early warning system:

a. Admissions should "flag" students who appear to be dropout prone because of "marginal" academic qualifications or indecision about major fields of study. Also flagged should be students who indicate special needs or superior students who require additional or accelerated work. These students should be monitored and institutional efforts to assist them could enhance retention.

b. "Change in major, significant course load reduction, request for transcripts, failure to reapply for financial aid and failure to preregister are all cues that should trigger contact with the student."

c. Instructors should be encouraged to identify students who may be potential dropouts. Such referrals should require "minimal effort on the part of the instructor."

Noel also suggested that an institution's advising system should be "systematically evaluated at least annually. Trends in student retention may certainly affect this evaluation, but most important is the collection and review of students' perceptions of the effectiveness of the advising they receive."[25]

B. Conclusions and Recommendations on College Programs and Services

This section focuses on conclusions drawn from our major findings on the progression and persistence of Fall 1975 entering students and on recommendations which may improve teaching/learning environments on our campuses. For a summary of major findings, the reader is urged to refer to pages v to ix in this report.

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[23] Ibid., p. 155.

[24] Op. cit., p. 95.

[25] Op. cit., p. 96.

We believe that improvements in instruction and student services are worthwhile ends in themselves. They may also be means to reduce attrition as well as to provide more favorable college experiences for students. In many cases, recommendations are the joint responsibility of instructors and counselors who need the support, psychological and economic, of administrators and other campus personnel.

Underlying the recommendations is one theme: prevent or minimize the probability and severity of problems, so that chances of student success are enhanced. We realize that campuses must set priorities in expanding services particularly in view of resource shortages, but we also know that expertise and commitment reside in every campus and that ingenuity and adaptations can substitute, in part, for inadequate resources.

We recognize that each community college has specific programs and services which are outstanding and others which need some improvement. Each campus should therefore determine its priorities regarding the recommendations proposed below because we know that all recommendations do not apply equally to all campuses.

I. Student-College Match

The "student-college fit" theory is commonly referred to in the literature on attrition. This approach focuses on the interaction between individual and institutional characteristics and the effect of this interaction on retention. The degree to which there is a correspondence or match of the student's attitude and values with those of the institution affects the likelihood of the student's persistence at that institution.

Potential college students should be interested in selecting institutions on the basis of their higher education goals and expectations. Campus personnel are in search of qualified students who can utilize and profit effectively from the programs of the institution. Administrators or boards with "oversight" responsibilities are also involved in evaluating the match between program capacity and student demand.

Ia. HIGH SCHOOL SENIORS, WHO MAKE UP A LARGE PORTION OF ENTERING STUDENTS IN THE COMMUNITY COLLEGES, NEED TO KNOW MORE ABOUT THEMSELVES--THEIR ASPIRATIONS, ABILITIES AND INTERESTS--AS WELL AS THE VARIOUS COLLEGES AND THEIR PROGRAMS SO AS TO IMPROVE SELF-SELECTION BY STUDENTS. THIS IS ESPECIALLY IMPORTANT BECAUSE THE COMMUNITY COLLEGES HAVE AN OPEN DOOR POLICY.

The several campuses of the University of Hawaii presently have catalogues of their offerings and related brochures. Recruiting groups also visit the high schools. In addition, community colleges invite students to their campuses especially during Vocational Education Week.

Despite these activities, we found that:

- 24% (2,195) of the entering students enrolled at their campus of entry for only one semester, including 1,699 who had selected major fields of study.
- 4% of the students not enrolled at their campus of entry transferred to another community college each semester.

WE RECOMMEND THAT:

(1) Each campus evaluate its efforts to provide its potential clientele with information that will aid students to select the college and program most appropriate to their interests and abilities.

(2) Each campus explore ways to work with high school counselors and high school teachers in preparing students for, and assisting them in, making decisions concerning postsecondary education.

Ib. THE COMMUNITY COLLEGES NEED RELEVANT INFORMATION ON POTENTIAL AND ENTERING STUDENTS TO ENABLE ADEQUATE AND APPROPRIATE LEVELS OF COLLEGE SERVICES THAT WILL PROMOTE AND MAXIMIZE STUDENT SUCCESS.

In view of the fact that more than 90 percent of the applicants are admitted by the community colleges, much diversity in the characteristics of students is expected.

The University of Hawaii has a Common Application Form for all its campuses. That form includes such items as sex, marital status, age, ethnicity, citizenship, high school, educational objective and preferred academic major. Some campus personnel feel that the form may deter some students from applying and that an evaluation and possible revision of the form should be made.

The community colleges do not require entrance tests or information on the high school academic performance of entering students. Each college, however, administers placement tests, but their results are not included in the student information system of the community colleges.

At the present time, we have no way of identifying the financial needs of potential students. Neither do we have information on their socioeconomic backgrounds. These kinds of data would be helpful to campus personnel involved in evaluating the adequacy and appropriateness of college services.

We also found that about a tenth of the "no shows" did not enroll because of financial problems and another tenth because of the unavailability of programs or courses they desired.

Furthermore, by the second semester, 28 percent of the entering students were no longer attending their campus of entry; by the beginning of the third semester, 52 percent were no longer enrolled.

WE RECOMMEND THAT:

(1) Campuses, working with the Office of the Chancellor for Community Colleges, include the results of placement tests in the student information system of the community colleges.

(2) The Office of the Chancellor, working with the deans of the various campuses and appropriate University personnel, explore how the Common Application Form may be revised from the standpoint of community college applicants and community college planning.

(3) As resources permit, campuses consider alternative ways of obtaining data on the high school academic performance of entering students.

(4) Each campus evaluate the adequacy and appropriateness of its developmental education program and plan necessary adaptations in view of the characteristics of the entering group.

(5) Each campus evaluate the match between its program capacities and potential student demand and plan necessary adjustments as feasible. The Office of the Chancellor for Community Colleges should be apprised of serious differences between capacity and demand for further exploration of alternative solutions.

(6) The Office of the Chancellor, in consultation with the provosts and deans, develop a questionnaire for entering students to obtain further information which should be helpful to personnel engaged in program evaluation and planning. (See Appendix I-1 for a draft of such a questionnaire.)

2. Student Success

Many attrition studies include specific recommendations for reducing attrition. Students "want to sense that they are learning, that they are growing and fulfilling dreams, and that they are maturing intellectually and personally. Therefore, to an institution, retaining students means more and better teaching in the classrooms, more and better counseling in the counseling offices, more and better opportunities for students to participate in out-of-class activities. It means doing a better job of all the things that make up a campus."[26]

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[26] Noel, op. cit., p. 98.

2a. IN ORDER TO MAXIMIZE THE ATTAINMENT OF GOALS, STUDENTS NEED TO KNOW ABOUT THE SPECIFIC STUDENT AND SUPPORT SERVICES OFFERED BY THEIR CAMPUS. AN EFFECTIVE ORIENTATION PROGRAM IS NECESSARY AS ARE APPROPRIATE MATERIALS AND RESOURCES.

The Non-Continuing Student Survey did not provide dropouts with an opportunity to evaluate the orientation program of their campus, but the Alumni Survey did. Graduates, as a whole, rated orientation as slightly better than "somewhat satisfactory."

WE RECOMMEND THAT:

(1) Campuses evaluate their orientation program, possibly seeking feedback from second-semester students and dropouts.

(2) Campuses consider the feasibility of scheduling orientation sessions throughout the first semester at critical times (after six-week or mid-semester exams, for example, or before such exams to prepare students).

(3) Campuses evaluate their catalogues, possibly in consultation with second-semester students, for effectiveness in orientation programs.

(4) Academic programs consider alternative ways of describing their program requirements and potential job opportunities as well as suggesting student qualifications that enhance success.

(5) Student services personnel consider alternative ways of publicizing their services to maximize use by students who might profit from such assistance.

(6) Personnel involved in orientation sessions be knowledgeable about the institution's programs, services and requirements. Both faculty and counselors should participate in orientation programs, and they should be sensitive to the image of the college they are projecting.

2b. COLLEGES NEED TO ASSESS THE BASIC ACADEMIC SKILLS OF ENTERING STUDENTS FOR APPROPRIATE PLACEMENT IN THE DEVELOPMENTAL EDUCATION PROGRAM AND FOR EARLY ACADEMIC ADVISING.

Through the open door of Hawaii's community colleges enters a great diversity of students, including some who may need assistance in developing their confidence and skills in reading, writing, speaking and computation in order to achieve their educational goals. "Throughout the 80s, nearly half of the students entering the Community Colleges are likely to be lacking in confidence or deficient in one or more skills . . ."[27]

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[27] University of Hawaii, Office of the Chancellor for Community Colleges, Hawaii's Community Colleges: Directions for the 1980s, Draft #3 (December 18, 1978), p. 7.

At the present time, the community colleges administer a number of placement examinations, and students whose scores fall below a specified level are urged, not required, to register in remedial or developmental courses. The colleges have used this approach as one way of preventing the open door from becoming a revolving door for some students.

The community colleges also attract some highly talented students who, by preference or necessity, begin their higher education in a two-year college.

WE RECOMMEND THAT:

(1) Colleges continue to evaluate the effectiveness of their developmental education programs and consider an analysis of the progression and persistence of their students.

(2) Colleges assess the adequacy of their provisions for academically advanced students and consider such alternatives as establishing honors programs and encouraging concurrent registration at four-year campuses.

2c. THE ATTITUDES AND COMPETENCE OF COMMUNITY COLLEGE INSTRUCTORS LARGELY DETERMINE THE TEACHING/LEARNING ENVIRONMENT OF A CAMPUS.

We found that graduates rated "knowledge gained from courses in the major" and "instructor accessibility" most favorably. The questionnaire used for dropouts was slightly different, and the highest ratings were given to: making new friends, faculty/student relations and instruction. These evaluations reflect favorably upon instruction in comparison to other areas which were rated. However, ratings differed significantly, by campus and by program.

WE RECOMMEND THAT:

(1) Faculty continue to be accessible to students for academic advising, career counseling and other assistance.

(2) Campuses seriously consider the feasibility of campus-wide use of student ratings of instruction so as to obtain suggestions for improving the learning environment.

(3) Faculty and staff development activities be given high priority as a means of assuring the continuing vitality and renewal of campus personnel.

2d. PROGRAMS AND CLASSES DESIRED BY STUDENTS ARE SOMETIMES NOT AVAILABLE, AND THE EXTENT AND NATURE OF SUCH UNAVAILABILITY NEED EVALUATION AND REMEDIATION IF STUDENT PROGRESSION AND PERSISTENCE ARE TO BE ENCOURAGED.

The following findings reflect the extent to which desired programs and classes were not available:

- 11% of "no shows" indicated this situation as a reason for not enrolling.
- 15% of all non-continuing students who answered their questionnaires indicated this as a reason for leaving their campuses.
- Non-continuing students, in evaluating their college experience, rated "course variety" unfavorably (mean score of 1.97 or "less than satisfactory").
- Graduates rated "availability of necessary courses" as slightly above "somewhat satisfactory."

It is obvious that graduates were more satisfied than dropouts on this phase of the college experience. We also know that there was conflict between the scheduling of classes and work hours for some students.

WE RECOMMEND THAT:

(1) Campuses consider ways of improving the scheduling of classes so that student interests are met to a greater degree. Pre-registration may be one alternative.

(2) Oahu campuses promote concurrent registration, if feasible, as a means of enriching course variety and coping with class/work conflicts.

2e. CHANGES OF MAJOR MAY NOT ALWAYS BE A REFLECTION OF STUDENT INDECISION, BUT MAY SOMETIMES BE A RESULT OF STUDENTS BECOMING MORE AWARE OF THEIR ABILITIES AND INTERESTS AS WELL AS OF PROGRAM REQUIREMENTS AND ALTERNATIVES.

We found that 22 percent of Fall 1975 entering students changed their majors during the six-semester period, especially during the second, third and fifth semesters. Close to 90 percent of these changes were from one major to another (not from unclassified status to a major). Furthermore, students who changed majors had a graduation rate of 23 percent, compared to that of 14 percent for students who did not change majors.

WE RECOMMEND THAT:

(1) Instructors and counselors be available for consultation by students who are exploring a change of major so as to make that choice an informed one.

2f. IDENTIFYING THE POTENTIAL DROPOUT AND INTERVENING BY THE CAMPUS AT AN EARLY STAGE WILL PROBABLY IMPROVE STUDENT PROGRESSION AND PERSISTENCE.

Our report indicates how difficult it is to identify the potential dropout based on limited data on student characteristics. Despite our lack of data on the socioeconomic backgrounds and high school performance of entering students, we were able to develop prediction equations for enrolling during the second semester and for graduating for each campus, separately for liberal arts and vocational education. We were especially interested in predicting dropout after the first semester because we lost 28 percent of the entering group at that time.

Earlier recommendations dealt with the need for data on high school academic performance, socioeconomic background and aspirations of entering students as important cues to dropout propensity.

WE RECOMMEND THAT:

(1) Campuses evaluate the usefulness of the prediction equations and consider their use with entering students in orientation sessions, possibly around mid-term.

(2) Campuses develop an early warning system which encourages instructors to confer with potential dropouts and to refer them to counselors if feasible.

(3) The results of the proposed Entering Student Survey be analyzed by campus personnel to identify potential dropouts, and counselors develop outreach programs for high risk students to provide them with appropriate advising services.

2g. THE ROLE AND SCOPE OF COUNSELING SERVICES AND THE EFFECTIVENESS OF COUNSELING ADD SIGNIFICANTLY TO THE TEACHING/LEARNING ENVIRONMENT OF OUR CAMPUSES.

Pantages and Creedon indicated that "by far the majority of the recommendations for reducing attrition have been concerned with enlarging the role and scope of counseling services . . . Many have considered this to be of primary importance in lowering attrition. . . ."[28]

Both dropouts and graduates were given opportunities to evaluate counseling services as part of the Student Flow Project. They did not differ significantly in their ratings. For example, slightly less than 40 percent of both groups rated counseling services as "good." Graduates also rated "instructors' assistance in career development" as slightly above "somewhat satisfactory."

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[28] Op. cit., pp. 89-90.

In addition to academic advising, student services personnel are becoming more involved in career or job counseling. Such activities are important to persistence because vocational or academic indecision can lead to attrition. There has also been appreciation of the value of work-study programs in assisting students to clarify occupational goals.

WE RECOMMEND THAT:

(1) Campuses evaluate their counseling services, including the extent and nature of: (a) contact with entering students, (b) career counseling and (c) job placement.

(2) Campuses evaluate the ratings of graduates and dropouts on counseling services, by program, so that appropriate improvements can be made.

(3) Campuses develop (a) an outreach program for dropouts who are not enrolled at another campus and for students who were suspended or dismissed for academic reasons and (b) counseling services for returning students to enhance their chances of success.

2h. STUDENT SUPPORT SERVICES, PARTICULARLY IN STUDENT EMPLOYMENT AND FINANCIAL AID, CAN HAVE POSITIVE EFFECTS ON STUDENT RETENTION.

Many of our community colleges offer their students selected support services. Among those which appear to have relevance to persistence are student employment, financial aid and extra-curricular activities.

The research on retention, particularly the work of Astin, points to part-time, on-campus, employment as being positively related to persistence. Full-time, off-campus jobs, however, were found to have a negative effect. Astin also recommended the use of grants, rather than loans, and suggested the need for further research on the impact of different financial aid packages on persistence.

The literature, expecially Tinto's theory on dropout which emphasizes the importance of the student's social integration on campus, also indicates that participation in extra-curricular activities can have beneficial effects on persistence.

At the present time, extra-curricular activities on most of our campuses are rather limited. There is growing interest in athletics, but graduates felt "somewhat dissatisfied" with athletic facilities.

We found that financial problems were affecting both entry and progression: 10 percent of the "no shows" and 10 percent of the dropouts cited financial problems as reasons for not enrolling.

We also found that while fewer than 300 graduates used financial aid services, it was among the top five services rated most favorably. Student employment services also received a favorable rating.

WE RECOMMEND THAT:

(1) Future student flow studies include an analysis of the progression and persistence of students receiving various forms of financial aid.

(2) Campuses examine the adequacy of their financial aid programs and the extent of use by students as well as evaluate the effectiveness of various financial aid packages on persistence.

(3) Campuses evaluate the results of the proposed Entering Student Survey which enables identification of students with financial need and makes possible early assistance from the financial aid staff.

3. Institutional Success

RESULTS FROM THE STUDENT FLOW PROJECT CAN BE USEFUL IN CAMPUS EFFORTS TO EVALUATE ITS PROGRAMS AND SERVICES AND TO PLAN FOR GREATER INSTITUTIONAL SUCCESS.

One of the dangers of conducting a student flow study is the preoccupation with retention and graduation rates which can sometimes lead to unwarranted raising of academic requirements for program entry. We were aware of this hazard as well as of the severe limitations of such an approach which could rely solely on the student information system each semester.

Evaluating institutional success is far more complex than a listing of progression and persistence rates during a six-semester period. This is why the Student Flow Project included many opportunities for feedback from exiting students as dropouts or graduates. The "no show" questionnaire requested information on why admitted students did not enroll. Surveys sent to non-continuing students sought data on their reasons for dropping out, their post-exit activities and their evaluations of the community college experience. The Alumni Surveys asked graduates to furnish details on their activities and to evaluate many specific areas of their college experience.

Developing policies on retention is difficult because there are no standards for what is "good" retention. Furthermore, our campuses are different in student characteristics and many institutional characteristics, but we hope that as campuses deliberate upon their data and student evaluations, they will formulate approaches to improve their teaching/learning environments.

In evaluating institutional success, campuses should be aware that:

- stopping out could increase in the future if more part-time, older and unclassified students enroll.
- community college degrees should not be considered two-year awards. About a third of the graduates took four semesters to complete their degrees; another third took six semesters.

- 15 percent of the entering students had graduated by the end of six semesters from their campus of entry, and 11 percent had attended for six consecutive semesters without completing their degrees.

- especially high proportions of the following sub-groups graduated: full-time students, health services majors, students with cumulative GPAs of 3.0-3.4 and with CCRs of .80-.99.

- many graduates had both career and general education goals as well as an aspiration to get a degree.

- the large majority of non-continuing students (82 percent) and graduates (87 percent) immediately went to work, continued their education or combined both.

- community colleges are serving as continuing education or post-graduate institutions for some of their graduates. Close to half of the graduates who continued their education did so at the community colleges; most of them returned to their alma mater.

- higher proportions of employed graduates, in contrast to working non-continuing students, indicated that (a) they were working full-time and (b) their jobs were closely related to their major fields of study.

- in contrast to graduates, a higher proportion of non-continuing students who continued their education at another institution transferred to U.H. Manoa and became full-time students.

- non-continuing students were somewhat complimentary in their evaluation of the community college experience, particularly those in health and hotel/food services. However, among graduates, liberal arts students were generally favorable in their ratings.

One of the difficulties in making recommendations on institutional success are the differences among campuses regarding students and programs as well as their relative strengths and weaknesses. However, a few general suggestions follow.

WE RECOMMEND THAT:

(1) Campuses analyze the data from the Student Flow Project--progression and persistence data and results from various surveys--in evaluating their programs and services, defining problem areas and seeking ways of improvement. In this effort, campuses may require assistance and direction from the Office of the Chancellor.

(2) Campuses evaluate the persistence patterns of their entering students in terms of their characteristics.

(3) Campuses explore the feasibility of using college environment assessment devices to seek evaluations of the college environment by campus personnel and students.

(4) The Office of the Chancellor encourage campuses to share their areas of expertise in programs and services with other colleges.

C. Conclusions and Recommendations on Future Student Flow Studies

We believe that the purposes of the Student Flow Project will be more fully realized as campuses delve more deeply into analyzing and interpreting their data. We also believe that the findings on the Fall 1975 entering group are baseline data which will increase in value as student flow studies are undertaken in the future. (Please refer to Appendix H for a list of 31 reports on the Fall 1975 entering group.)

WE RECOMMEND THAT:

(1) Student flow studies of entering groups in the community colleges be undertaken at least every five years and that the study be broadened, at a minimum, by including analysis of students who transfer to four-year campuses within the University of Hawaii.

We suggest that the following reports, for the community college system and for each campus, be prepared as scheduled below for the Fall 1980 entering group:

Report	Semester
#1. Applications, Admissions and Registrations	Fall 1980
In addition to the analysis of entering status, sex and program, there should be data on placement test results for new students. (This will necessitate a change in student records and in computer programming.)	
#2. Entering Student Survey	Fall 1980
This is a new report and the rationale for its addition was discussed in previous sections. (See Appendix I-1 for a preliminary draft.) Computer programming is necessary.	
#3. Non-Continuing Student Survey	Spring 1981
This report will provide information on the reasons for non-continuance, activities of non-continuing students, their educational plans and evaluation of	

Report Semester

their first semester in a community college. If resources permit, non-continuing students should be surveyed for the following four semesters. (See Appendix I-2 for the questionnaire used for four semesters in studying non-continuing students among the Fall 1975 entering group. Computer programming is complete.) Two additional questions for working non-continuing students should be considered relative to their (a) annual salary, if employed full-time and (b) satisfaction with their jobs. If this is done, additional programming will be necessary.

#4. Student Progression Each Semester

Spring 1981
Fall 1981
Spring 1982
Fall 1982
Spring 1983

These reports will include the number of students registered, registration rate, full-time rate, changes of major, number of graduates, credits attempted, credits earned. (Computer programming is complete.) If rates are desired for students in developmental education courses or for those receiving financial aid, additional programming will be necessary.

#5. Analysis of Persistence

Spring 1982
Spring 1983

This should be prepared at the end of the 4th and the 6th semesters, by campus of entry, and within the community college system. Analysis should relate student characteristics to the five persistence patterns (non-persister, stop-out, moderate persister, extreme persister, graduate). The last report, in addition, should relate responses on the Entering Student Survey (item 2) to persistence patterns. (All computer programming is complete except for relating survey responses to persistence patterns.) Two additional characteristics should be considered in analyzing persistence rates: (a) registration in a developmental education course and (b) receipt of financial aid. If this is done, programming will be necessary.

#6. Graduates

Fall 1983

At the end of three years, a report should be prepared on graduates who entered in Fall 1980. (This will require a survey for this purpose or a separation of the responses of Fall 1980 entering students from other alumni should there be a continuation of the University-wide Alumni Survey.) Data should in-

Report Semester

clude post-graduation activities, details on those attending school, details on those who are employed, evaluation of the community college experience. (See Appendix I-3 for the last Alumni Survey used by the University of Hawaii for graduates of all nine campuses. Computer programming is complete.) If possible, the Alumni Survey should be revised to include two additional questions for working graduates relative to: (a) employment in the present job prior to graduation and (b) satisfaction with the present job. If this is done, additional programming will be necessary.

#7. Employer Survey Spring 1984

Employers of graduates who entered the community colleges in Fall 1980 should be surveyed for their assessment of community college programs in preparing graduates for employment. Suggestions for improving the colleges should be sought in the survey form. (See Appendix I-4 for a copy of the form used in surveying the employers of 1975-1976 community college graduates. Computer programming is complete.)

#8. Transfers to the University's Four-Year Campuses Spring 1984

At the end of three years, a report should be prepared on the academic performance and graduation rate of community college transfers to various four-year campuses of the University of Hawaii. If resources permit, transfer students should be surveyed to obtain evaluations of the community colleges in terms of preparation for baccalaureate work and to solicit suggestions for improving the community colleges. The Office of the Chancellor, working with the various campuses, will need to design this research phase and computer programming will be necessary.

WE ALSO RECOMMEND THAT:

(2) The feasibility of a student flow study involving all of the University's campuses be considered by the University.

In the exploration of this possibility, there should be consultation with campus personnel. If the decision is to proceed, a working committee, comprised of representatives from two- and four-year campuses, may be necessary to design the student flow study, and research and programming resources will be needed.

D. Concluding Note

The Student Flow Project was a massive effort, involving assistance from staff members in the Chancellor's Office and campus personnel in the community colleges. During the course of conducting the project, many reports were written to disseminate baseline data to the campuses, and six meetings with campus personnel were held to discuss major findings as the study progressed. In addition, at the invitation of five colleges, specific data for those campuses were summarized and discussed at campus meetings.

Throughout the conduct of the project, we recognized that the greatest value of our findings resided in campus use and evaluation for program planning and development. In varying ways, and to varying degrees, campuses have examined their data and made program changes.

We hope that the preparation of this comprehensive report for the community college system of Hawaii, and particularly our conclusions and recommendations, will spur campus efforts to re-examine their procedures and policies, their curriculum and student services, their academic support and physical facilities. Planning, based on such analysis, should enable Hawaii's "komo mai" colleges to serve present and future students more effectively.

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APPENDIX A
APPLICANTS, ADMITTEES AND REGISTRANTS
NEW AND TRANSFER STUDENTS, BY CAMPUS, SEX AND PROGRAM

Campus	NEW STUDENTS					TRANSFER STUDENTS				
	Applicants	Admittees		Registrants		Applicants	Admittees		Registrants	
		No.	% of Applicants	No.	% of Admit.		No.	% of Applicants	No.	% of Admit.
TOTAL	9,508	8,886	93.5	6,577	74.0	4,123	3,619	87.8	2,402	66.4
Male	4,870	4,659	95.7	3,491	74.9	2,008	1,831	91.2	1,248	68.2
Female	4,617	4,216	91.3	3,082	73.1	2,097	1,776	84.7	1,152	64.9
No Data	21	11	52.4	4	36.4	18	12	66.7	2	16.7
Hawaii CC	928	868	93.5	600	69.1	280	251	89.6	148	59.0
Male	486	453	93.2	321	70.9	130	121	93.1	71	58.7
Female	438	412	94.1	279	67.7	150	130	86.7	77	59.2
No Data	4	3	75.0							
Honolulu CC	1,875	1,837	98.0	1,313	71.5	817	780	95.5	518	66.4
Male	1,304	1,282	98.3	939	73.2	535	513	95.9	334	65.1
Female	571	555	97.2	374	67.4	280	265	94.6	184	69.4
No Data						2	2	100.0		
Kapiolani CC	2,214	1,893	85.5	1,457	77.0	1,064	812	76.3	540	66.5
Male	723	662	91.6	501	75.7	396	332	83.8	225	67.8
Female	1,485	1,230	82.8	956	77.7	660	476	72.1	315	66.2
No Data	6	1	16.7			8	4	50.0		
Kauai CC	483	456	94.4	334	73.2	254	240	94.5	151	62.9
Male	246	236	95.9	168	71.2	108	106	98.1	66	62.3
Female	230	215	93.5	162	75.3	141	131	92.9	83	63.4
No Data	7	5	71.4	4	80.0	5	3	60.0	2	66.7
Leeward CC	2,687	2,578	95.9	1,948	75.6	1,008	891	88.4	625	70.1
Male	1,462	1,411	96.5	1,093	77.5	514	462	89.9	354	76.6
Female	1,225	1,167	95.3	855	73.3	494	429	86.8	271	63.2
Maui CC	762	719	94.4	560	77.9	380	352	92.6	256	72.7
Male	366	344	94.0	280	81.4	177	165	93.2	120	72.7
Female	394	375	95.2	280	74.7	201	185	92.0	136	73.5
No Data	2					2	2	100.0		
Windward CC	559	535	95.7	365	68.2	320	293	91.6	164	56.0
Male	283	271	95.8	189	69.7	148	132	89.2	78	59.1
Female	274	262	95.6	176	67.2	171	160	93.6	86	53.8
No Data	2	2	100.0			1	1	100.0		

APPENDIX A (Cont.)

Campus	NEW STUDENTS					TRANSFER STUDENTS				
	Applicants	Admittees		Registrants		Applicants	Admittees		Registrants	
		No.	% of Applicants	No.	% of Admit.		No.	% of Applicants	No.	% of Admit.
TOTAL	9,508	8,886	93.5	6,577	74.0	4,123	3,619	87.8	2,402	66.4
Liberal Arts	4,636	4,425	95.4	3,293	74.4	1,733	1,538	88.7	1,007	65.5
Vocational Ed	4,073	3,711	91.1	2,751	74.1	1,607	1,333	82.9	929	69.7
Other[a]	799	750	93.9	533	71.1	783	748	95.5	466	62.3
Hawaii CC	928	868	93.5	600	69.1	280	251	89.6	148	59.0
Liberal Arts	*285*	*279*	*97.9*	*162*	*58.1*	*81*	*78*	*96.3*	*35*	*44.9*
Vocational Ed	*549*	*497*	*90.5*	*381*	*76.7*	*135*	*109*	*80.7*	*73*	*67.0*
Other	*94*	*92*	*97.9*	*57*	*62.0*	*64*	*64*	*100.0*	*40*	*62.5*
Honolulu CC	1,875	1,837	98.0	1,313	71.5	817	780	95.5	518	66.4
Liberal Arts	*610*	*584*	*95.7*	*402*	*68.8*	*265*	*233*	*87.9*	*154*	*66.1*
Vocational Ed	*1,139*	*1,131*	*99.3*	*815*	*72.1*	*434*	*429*	*98.8*	*285*	*66.4*
Other	*126*	*122*	*96.8*	*96*	*78.7*	*118*	*118*	*100.0*	*79*	*66.9*
Kapiolani CC	2,214	1,893	85.5	1,457	77.0	1,064	812	75.3	540	66.5
Liberal Arts	*763*	*717*	*94.0*	*575*	*80.2*	*140*	*113*	*80.7*	*71*	*62.8*
Vocational Ed	*1,273*	*1,014*	*79.7*	*769*	*75.8*	*721*	*516*	*71.6*	*368*	*71.3*
Other	*178*	*162*	*91.0*	*113*	*70.0*	*203*	*183*	*90.1*	*101*	*55.2*
Kauai CC	483	456	94.4	334	73.2	254	240	94.5	151	62.9
Liberal Arts	*180*	*172*	*95.6*	*129*	*75.0*	*88*	*84*	*95.5*	*51*	*60.7*
Vocational Ed	*204*	*190*	*93.1*	*137*	*72.1*	*45*	*37*	*82.2*	*26*	*70.3*
Other	*99*	*94*	*94.9*	*68*	*72.3*	*121*	*119*	*98.3*	*74*	*62.2*
Leeward CC	2,687	2,578	95.9	1,948	75.6	1,008	891	88.4	625	70.1
Liberal Arts	*1,928*	*1,855*	*96.2*	*1,430*	*77.1*	*707*	*616*	*87.1*	*438*	*71.1*
Vocational Ed	*594*	*574*	*96.6*	*412*	*71.8*	*174*	*154*	*88.5*	*113*	*73.4*
Other	*165*	*149*	*90.3*	*106*	*71.1*	*127*	*121*	*95.3*	*74*	*61.2*
Maui CC	762	719	94.4	560	77.9	380	352	92.6	256	72.7
Liberal Arts	*381*	*351*	*92.1*	*272*	*77.5*	*178*	*165*	*92.7*	*117*	*70.9*
Vocational Ed	*299*	*290*	*97.0*	*228*	*78.6*	*91*	*81*	*89.0*	*60*	*74.1*
Other	*82*	*78*	*95.1*	*60*	*76.9*	*111*	*106*	*95.5*	*79*	*74.5*
Windward CC	559	535	95.7	365	68.2	320	293	91.6	164	56.0
Liberal Arts	*489*	*467*	*95.5*	*323*	*69.2*	*274*	*249*	*90.9*	*141*	*56.6*
Vocational Ed	*15*	*15*	*100.0*	*9*	*60.0*	*7*	*7*	*100.0*	*4*	*57.1*
Other	*55*	*53*	*96.4*	*33*	*62.3*	*39*	*37*	*94.9*	*19*	*51.4*

[a] "Other" includes the unclassified students and a very small number of students with "no data".

APPENDIX B

REASONS FOR NOT ENROLLING, BY CAMPUS
SURVEY OF FALL 1975 NO SHOWS

Campus	Total		Reasons for Not Enrolling:[a]											
	Respondents	Responses	School		Work		Military		Financial		Health/Per.		Other	
			No.	H%	No.	H%	No.	H%	No.	H%	No.	H%	No.	H%
TOTAL	2,125	2,458	469	*19%*	699	*28%*	103	*4%*	250	*10%*	349	*14%*	588	*24%*
Hawaii CC	228	266	91	*34%*	57	*21%*	11	*4%*	31	*12%*	38	*14%*	38	*14%*
Honolulu CC	550	613	92	*15%*	239	*39%*	29	*5%*	56	*9%*	78	*13%*	119	*19%*
Kapiolani CC	490	578	121	*21%*	156	*27%*	21	*4%*	60	*10%*	77	*13%*	143	*25%*
Kauai CC	129	146	10	*7%*	44	*30%*	5	*3%*	21	*14%*	26	*18%*	40	*27%*
Leeward CC	583	684	128	*19%*	168	*25%*	34	*5%*	55	*8%*	96	*14%*	203	*30%*
Maui CC	145	171	27	*16%*	35	*21%*	3	*2%*	27	*16%*	34	*20%*	45	*26%*

[a] H% based on Total Responses.

APPENDIX C

DATA ON ENROLLED STUDENTS, BY CAMPUS

C-1. Registration Rates

C-2. Continuation Rates

C-3. Full-Time Rates

C-4. Credit-Completion Ratios

C-5. Nature of Changes of Major

C-1. REGISTRATION RATES

Note: Registration rates based on potential registrants.

Characteristics	Spring 1976		Fall 1976		Spring 1977		Fall 1977		Spring 1978	
	New	Transfer	New	Transfer	New	Transfer	New	Transfer	New	Transfer
TOTAL	75%	65%	51%	40%	45%	33%	30%	21%	24%	15%
Male	77%	69%	52%	42%	46%	35%	31%	23%	25%	17%
Female	73%	62%	50%	38%	43%	30%	29%	18%	22%	13%
Hawaii CC	78%	70%	54%	45%	49%	39%	33%	20%	28%	13%
Honolulu CC	75%	66%	56%	44%	47%	37%	31%	25%	24%	18%
Kapiolani CC	76%	69%	52%	42%	45%	33%	33%	18%	25%	12%
Kauai CC	68%	55%	44%	37%	40%	31%	24%	20%	19%	17%
Leeward CC	77%	70%	52%	43%	45%	35%	32%	25%	26%	19%
Maui CC	72%	52%	48%	32%	42%	22%	25%	10%	19%	11%
Windward CC	70%	60%	39%	25%	33%	22%	20%	15%	15%	8%
Liberal Arts	77%	69%	51%	40%	43%	31%	28%	20%	22%	15%
Vocational Educ.	79%	74%	57%	52%	51%	43%	37%	27%	30%	20%
Business	(79%)	(70%)	(57%)	(48%)	(52%)	(35%)	(40%)	(25%)	(31%)	(17%)
Education	(80%)	(79%)								
Health Svcs.	(78%)	(86%)	(44%)	(50%)	(41%)	(48%)	(19%)	7%)	(17%)	(a)
Hotel/Food Svcs.	(77%)	(84%)	(51%)	(71%)	(49%)	(71%)	(36%)	(41%)	(28%)	(30%)
Public Svcs.	(75%)	(74%)	(52%)	(49%)	(42%)	(40%)	(33%)	(28%)	(27%)	(21%)
Technology	(80%)	(72%)	(63%)	(57%)	(54%)	(50%)	(38%)	(35%)	(33%)	(29%)
Unclassified	45%	36%	19%	15%	16%	12%	10%	10%	6%	6%
Special		a	a	a	a	a	a	54%	67%	a

[a] Fewer than 6 students.

C-2. CONTINUATION RATES[a]

Note: See Section III of this report for the definition of "continuing" students.

Campus	Continuing Students and Continuation Rates									
	Sp 1976		F 1976		Sp 1977		F 1977		Sp 1978	
TOTAL	6,503	72%	4,157	64%	3,302	80%	1,844	67%	1,204	76%
Hawaii CC	573	77%	371	65%	315	86%	112	70%	85	83%
Honolulu CC	1,327	73%	921	70%	745	81%	420	66%	263	74%
Kapiolani CC	1,468	74%	933	64%	721	77%	418	68%	268	75%
Kauai CC	309	64%	196	65%	158	81%	73	67%	41	72%
Leeward CC	1,937	75%	1,234	64%	980	80%	639	69%	430	76%
Maui CC	536	66%	325	61%	252	78%	105	57%	70	77%
Windward CC	353	67%	177	50%	131	73%	77	65%	47	68%

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[a] For detailed data, see Student Flow Project, Reports No. 10, 16, 23, 34, 38.

C-3. FULL-TIME RATES

Characteristics	Fall 1975		Spring 1976		Fall 1976		Spring 1977		Fall 1977		Spring 1978	
	New	Transfer	New	Transfer	New	Transfer	New	Transfer	New	Transfer	New	Transfer
TOTAL	64%	46%	70%	59%	71%	59%	70%	55%	59%	41%	55%	40%
Male	65%	51%	69%	62%	71%	65%	69%	57%	59%	45%	54%	43%
Female	62%	41%	71%	55%	71%	52%	70%	52%	59%	34%	55%	37%
Hawaii CC	74%	57%	80%	70%	84%	55%	82%	56%	67%	33%	66%	50%
Honolulu CC	66%	50%	73%	61%	73%	67%	71%	65%	58%	53%	57%	56%
Kapiolani CC	67%	52%	75%	66%	69%	57%	66%	59%	54%	35%	49%	30%
Kauai CC	58%	34%	72%	54%	68%	53%	62%	39%	64%	35%	45%	29%
Leeward CC	60%	43%	62%	52%	67%	56%	70%	46%	60%	39%	55%	36%
Maui CC	64%	35%	72%	56%	79%	57%	71%	52%	69%	38%	66%	44%
Windward CC	52%	47%	57%	55%	64%	55%	56%	44%	48%	26%	29%	23%
Liberal Arts	67%	51%	69%	61%	74%	63%	72%	56%	61%	45%	56%	39%
Vocational Educ.	70%	57%	75%	66%	71%	62%	71%	59%	59%	44%	55%	46%
Business	(67%)	(53%)	(74%)	(64%)	(71%)	(59%)	(69%)	(47%)	(57%)	(37%)	(48%)	(34%)
Education	(72%)	(86%)	(54%)	(82%)								
Health Svcs.	(79%)	(77%)	(85%)	(82%)	(72%)	(55%)	(79%)	(72%)	(57%)	(43%)	(81%)	(a)
Hotel/Food Svcs.	(80%)	(75%)	(87%)	(94%)	(61%)	(56%)	(59%)	(55%)	(59%)	(25%)	(54%)	(25%)
Public Svcs.	(51%)	(34%)	(63%)	(47%)	(67%)	(50%)	(65%)	(43%)	(51%)	(31%)	(47%)	(33%)
Technology	(76%)	(86%)	(77%)	(66%)	(75%)	(75%)	(76%)	(71%)	(66%)	(60%)	(65%)	(65%)
Unclassified	14%	14%	22%	21%	24%	16%	11%	15%	14%	11%	22%	17%

[a] Fewer than 6 students.

C-4. CREDIT-COMPLETION RATIOS

haracteristics	Fall 1975		Spring 1976		Fall 1976		Spring 1977		Fall 1977		Spring 1978	
	New	Transfer	New	Transfer	New	Transfer	New	Transfer	New	Transfer	New	Transfer
TAL	.70	.73	.71	.74	.74	.74	.76	.79	.75	.76	.73	.76
Male	.68	.71	.71	.72	.73	.73	.77	.79	.75	.76	.73	.79
Female	.71	.77	.72	.77	.75	.74	.75	.79	.75	.77	.72	.71
waii CC	.78	.82	.73	.75	.83	.79	.85	.81	.78	.77	.75	.74
nolulu CC	.68	.70	.69	.75	.72	.76	.74	.82	.73	.80	.74	.81
piolani CC	.72	.74	.75	.77	.78	.77	.80	.79	.79	.68	.79	.75
uai CC	.74	.78	.71	.74	.77	.71	.84	.86	.79	.79	.69	.90
eward CC	.66	.74	.70	.74	.71	.71	.72	.77	.72	.77	.68	.68
aui CC	.73	.74	.73	.69	.74	.70	.78	.75	.78	.76	.72	.81
indward CC	.57	.66	.63	.68	.61	.59	.64	.64	.71	.72	.74	.74
iberal Arts	.68	.72	.69	.71	.71	.69	.73	.76	.72	.75	.70	.72
ocational Educ.	.73	.74	.74	.78	.77	.77	.80	.81	.78	.77	.75	.79
Business	(.72)	(.71)	(.71)	(.72)	(.76)	(.68)	(.79)	(.74)	(.77)	(.69)	(.74)	(.72)
Education	(.65)	(.68)	(.63)	(.69)								
Health Svcs.	(.79)	(.83)	(.77)	(.82)	(.85)	(.85)	(.87)	(.87)	(.90)	(.83)	(.92)	(.81)
Hotel/Food Svcs.	(.73)	(.87)	(.77)	(.83)	(.76)	(.88)	(.80)	(.85)	(.77)	(.56)	(.77)	(.41)
Public Svcs.	(.69)	(.75)	(.67)	(.82)	(.69)	(.81)	(.67)	(.79)	(.68)	(.78)	(.74)	(.88)
Technology	(.73)	(.72)	(.78)	(.80)	(.80)	(.79)	(.83)	(.84)	(.81)	(.85)	(.75)	(.84)
nclassified	.64	.74	.68	.69	.69	.72	.70	.72	.74	.73	.65	.80

C-5. NATURE OF CHANGES OF MAJOR

	Total	Hawaii	Honolulu	Kapiolani	Kauai	Leeward	Maui	Windward
TOTAL	2,649	227	569	840	141	531	252	89
LIBERAL ARTS TO:								
Vocational Education	768	44	130	205	40	231	85	33
Other	173	16	31	39	7	48	15	17
VOCATIONAL EDUCATION TO:								
Liberal Arts	439	32	121	147	20	75	38	6
Vocational Education[a]	877	99	236	281	52	117	68	24
Other	107	10	22	47	2	9	16	1
OTHER TO:								
Liberal Arts	118	13	11	48	9	21	11	5
Vocational Education	125	10	14	46	10	27	15	3
Other[b]	42	3	4	27	1	3	4	0

[a] Change from one vocational education program to another; e.g., from technology to business.

[b] Change from "unclassified" to "special" or vice versa.

APPENDIX D

DATA ON NON-CONTINUING STUDENTS, BY CAMPUS

D-1. Reasons for Not Continuing Enrollment

D-2. Activities of Non-Continuing Students

D-3. Non-Continuing Students Who Were Working

D-4. Non-Continuing Students Who Transferred to Other Campuses

D-5. Evaluation of College Experience by Non-Continuing Students

D-1. REASONS FOR NOT CONTINUING ENROLLMENT

Note: Percentages based on number of responses.

Reason	Hawaii		Honolulu		Kapiolani		Kauai		Leeward		Maui		Windward	
	No.	V%	No.	V%	No.	V%	No.	V%	No.	V%	No.	V%	No.	V%
TOTAL RESPONSES	144	100%	591	100%	803	100%	118	100%	885	100%	229	100%	166	100%
Achieved/changed goal	14	10%	64	11%	79	10%	18	15%	44	5%	21	9%	10	6%
Transfer	24	17%	114	19%	174	22%	12	10%	223	25%	34	15%	40	24%
Prefer to work	24	17%	88	15%	125	16%	15	13%	106	12%	33	14%	21	13%
Financial reasons	24	17%	55	9%	63	8%	13	11%	105	12%	37	16%	12	7%
Class unavailable	13	9%	98	17%	89	11%	25	21%	159	18%	39	17%	37	22%
Academic reasons	11	8%	30	5%	92	11%	3	3%	34	4%	7	3%	7	4%
Personal reasons	16	11%	61	10%	70	9%	20	17%	110	12%	26	11%	26	16%
Other	18	12%	81	14%	111	14%	12	10%	104	12%	32	14%	13	8%

Significance = 0.0000

D-2. ACTIVITIES OF NON-CONTINUING STUDENTS

Activity	Total	Hawaii	Honolulu	Kapiolani	Kauai	Leeward	Maui	Windwar
TOTAL NO.	2,606	128	536	692	100	791	206	153
Work	54%	46%	57%	55%	62%	50%	60%	55%
School	28%	28%	24%	29%	14%	31%	21%	32%
Looking for work	9%	12%	10%	9%	8%	9%	6%	7%
Other	10%	14%	9%	8%	16%	10%	13%	7%

Significance = 0.0000

D-3. NON-CONTINUING STUDENTS WHO WERE WORKING

Item[a]	Total	Hawaii	Honolulu	Kapiolani	Kauai	Leeward	Maui	Windward
WORK STATUS*	1,289	55	283	354	58	352	111	76
Full-time	69%	51%	68%	72%	72%	69%	63%	76%
Part-time	31%	49%	33%	28%	28%	31%	37%	24%
OCCUPATION[b]***	1,287	53	271	355	54	363	114	77
Prof/Tech/Mgl	14%	11%	13%	10%	26%	13%	24%	18%
Clerical/Sales	34%	34%	22%	47%	28%	35%	29%	33%
Service	33%	38%	41%	32%	37%	30%	25%	30%
Machine Trades, Bench Work, Structural Work	9%	2%	14%	3%	4%	11%	11%	9%
Other	11%	15%	10%	9%	6%	12%	11%	10%
JOB/STUDIES REL.	1,278	55	278	348	57	350	116	74
Closely related	29%	31%	32%	37%	26%	20%	26%	28%
Somewhat related	29%	33%	23%	28%	25%	33%	32%	27%
Not related	42%	36%	45%	35%	49%	47%	42%	45%

[a] Levels of significance, based on chi-square analysis, denoted thus: *.05 ** .01 *** .001.

[b] Occupations are based on U.S. Department of Labor's Dictionary of Occupational Titles. The "other" category includes farming, fishing and forestry; processing and miscellaneous.

D-4. NON-CONTINUING STUDENTS WHO TRANSFERRED TO OTHER COLLEGES

Item[a]	Total	Hawaii	Honolulu	Kapiolani	Kauai	Leeward	Maui	Windward
ENROLLMENT STATUS**	658	31	119	183	9	232	37	47
Full-time	82%	77%	71%	83%	100%	85%	95%	72%
Part-time	19%	23%	29%	18%	0%	15%	5%	28%
COLLEGE***	664	34	117	189	11	227	39	47
Community College	25%	29%	29%	27%	27%	22%	18%	28%
U.H. Manoa	51%	6%	50%	59%	36%	51%	59%	51%
Other Hawaii	9%	50%	7%	4%	18%	10%	10%	0%
Out-of-state	15%	15%	14%	10%	18%	18%	13%	21%

[a] Levels of significance, based on chi-square analysis, denoted thus: * .05 ** .01 *** .001.

D-5. EVALUATION OF COLLEGE EXPERIENCE BY NON-CONTINUING STUDENTS

Note: The data below are mean scores based on the following scoring: 1(not satisfied), 2(satisfied), 3(very satisfied). The total number of students (left corner) may differ from item to item because students did not respond to all items.

Item[a]	Total	Hawaii	Honolulu	Kapiolani	Kauai	Leeward	Maui	Windward
Instruction***	2,479 2.45	120 2.31	509 2.53	667 2.35	91 2.44	750 2.50	194 2.36	148 2.57
Faculty/stud. relations***	2,472 2.49	118 2.49	506 2.58	664 2.34	94 2.56	747 2.54	195 2.45	148 2.66
Course variety***	2,137 1.97	100 1.88	418 2.08	576 1.95	72 1.74	681 2.06	162 1.70	128 1.78
Intellectual environment***	1,629 2.22	69 2.12	332 2.26	437 2.06	52 2.02	519 2.36	123 2.11	97 2.34
Counseling svcs.***	2,264 2.19	109 2.11	447 2.29	616 2.08	80 2.11	714 2.22	174 2.18	124 2.23
Student friendships	2,091 2.51	102 2.51	418 2.50	567 2.47	70 2.49	652 2.53	159 2.51	123 2.63
Facilities/equipment***	2,412 2.26	114 2.04	490 2.39	646 2.00	87 2.17	742 2.47	188 2.14	145 2.25
Total college experience***	2,414 2.41	116 2.31	487 2.48	656 2.27	89 2.45	733 2.49	187 2.37	146 2.48

[a] Levels of significance, based on analysis of variance, denoted thus: * .05 ** .01 *** .001.

APPENDIX E

DATA ON GRADUATES, BY CAMPUS

E-1. Activities of Graduates

E-2. Details on Employment

E-3. Details on Further Education

E-4. Evaluation of Campus Helpfulness in Attaining Goals

E-5. Evaluation of College Experience

E-6. Evaluation of College Services

E-1. ACTIVITIES OF GRADUATES

Activity	Total		Hawaii		Honolulu		Kapiolani		Kauai		Leeward		Maui		Windward	
	No.	V%	No.	V%	No.	V%	No.	V%	No.	V%	No.	V%	No.	V%	No.	V%
TOTAL GRADS.	874	100%	150	100%	166	100%	224	100%	53	100%	161	100%	92	100%	28	100%
Work	431	49%	92	61%	74	45%	137	61%	33	62%	46	29%	42	46%	7	25%
School	112	13%	20	13%	22	13%	13	6%	6	11%	30	19%	12	13%	9	32%
Work/School	220	25%	22	15%	55	33%	47	21%	8	15%	55	34%	23	25%	10	36%
Unemployed	55	6%	8	5%	6	4%	15	7%	3	6%	13	8%	10	11%	0	0%
Other	56	6%	8	5%	9	5%	12	5%	3	6%	17	11%	5	5%	2	7%

E-2. DETAILS ON EMPLOYMENT

Item	Total	Hawaii	Honolulu	Kapiolani	Kauai	Leeward	Maui	Windward
WORK STATUS								
Total	(666)	(118)	(132)	(185)	(42)	(106)	(65)	(18)
Full-time	71%	73%	67%	75%	71%	67%	72%	56%
Part-time	25%	23%	30%	20%	26%	26%	23%	44%
More than one job	5%	4%	3%	6%	2%	7%	5%	0%
OCCUPATION								
Total	(658)	(116)	(128)	(185)	(42)	(103)	(68)	(16)
Prof/Tech/Mgl	11%	11%	8%	15%	10%	12%	4%	19%
Clerical/Sales	43%	35%	12%	54%	45%	55%	60%	44%
Service	23%	16%	31%	28%	19%	16%	15%	19%
Mach/Bench/Struct	15%	21%	35%	1%	21%	10%	12%	13%
Other	9%	16%	14%	2%	5%	8%	9%	6%
ANNUAL SALARY: FULL-TIME EMPLOYEES								
Total	(438)	(75)	(84)	(128)	(30)	(68)	(44)	(9)
Under $6,000	25%	41%	21%	21%	33%	15%	23%	22%
$6,000-$7,499	23%	16%	12%	28%	27%	32%	27%	0%
$7,500-$9,999	23%	19%	18%	33%	27%	18%	25%	11%
$10,000-$14,999	15%	11%	27%	13%	7%	13%	7%	22%
$15,000 and above	8%	3%	14%	1%	7%	16%	7%	33%
Don't know	7%	11%	7%	4%	0%	6%	11%	11%

Continued on next page

E-2. DETAILS ON EMPLOYMENT (Continued)

Item	Total	Hawaii	Honolulu	Kapiolani	Kauai	Leeward	Maui	Windward
EMPLOYER								
Total	(654)	(115)	(129)	(181)	(43)	(102)	(67)	(17)
Private Industry	61%	64%	63%	60%	61%	58%	52%	77%
Tourist Industry	9%	4%	9%	14%	12%	4%	16%	0%
State Government	11%	15%	4%	9%	19%	11%	18%	0%
County/Federal Gov't	11%	7%	19%	6%	7%	21%	3%	0%
Other	9%	10%	5%	11%	2%	7%	10%	24%
PLACE OF EMPLOYMENT								
Total	(665)	(117)	(131)	(185)	(42)	(105)	(68)	(17)
Oahu	64%	8%	93%	94%	5%	92%	7%	94%
Neighbor Island	34%	90%	5%	4%	95%	3%	88%	0%
Out-of-state	3%	2%	2%	2%	0%	5%	4%	6%
JOB/CAREER REL.								
Total	(648)	(108)	(128)	(180)	(43)	(105)	(67)	(17)
Definitely rel.	24%	26%	23%	25%	19%	25%	19%	18%
Probably rel.	39%	41%	34%	44%	49%	33%	34%	41%
Probably not rel.	21%	18%	22%	19%	19%	21%	30%	18%
Definitely not rel.	17%	16%	21%	12%	14%	21%	16%	24%
JOB/STUDIES REL.								
Total	(654)	(110)	(129)	(185)	(42)	(104)	(68)	(16)
Closely rel.	48%	50%	40%	64%	48%	36%	43%	13%
Somewhat rel.	24%	20%	22%	24%	21%	32%	25%	25%
Not rel.	28%	30%	38%	12%	31%	33%	32%	63%

E-3. DETAILS ON FURTHER EDUCATION

Item	Total	Hawaii	Honolulu	Kapiolani	Kauai	Leeward	Maui	Windward
ENROLLMENT STATUS								
Total	(357)	(44)	(82)	(66)	(15)	(96)	(34)	(20)
Full-time	74%	84%	72%	62%	73%	77%	79%	80%
Part-time	26%	16%	28%	38%	27%	23%	21%	20%
SCHOOL								
Total	(352)	(45)	(80)	(63)	(15)	(96)	(33)	(20)
Oahu Comm. Coll.	33%	4%	59%	48%	13%	27%	6%	30%
N.I., Comm. Coll.	15%	53%	0%	2%	53%	0%	55%	0%
U.H. Manoa	35%	4%	31%	35%	20%	55%	30%	45%
Other	18%	38%	10%	16%	13%	18%	9%	25%
EDUCATIONAL OBJ.								
Total	(350)	(42)	(80)	(65)	(14)	(96)	(33)	(20)
Certificate	8%	14%	11%	8%	7%	4%	0%	10%
Associate Degree	25%	41%	30%	29%	36%	12%	36%	5%
Bachelor's	54%	29%	44%	42%	43%	82%	49%	75%
Other	13%	17%	15%	22%	14%	2%	15%	10%

E-4. EVALUATION OF CAMPUS HELPFULNESS IN ATTAINING GOALS

Note: The data below are mean scores based on the following scoring: 1(not much help), 2(some help), 3(great deal of help). The total number of students (left corner) may differ from item to item because not all goals were considered important by students.

Goal[a]	Hawaii	Honolulu	Kapiolani	Kauai	Leeward	Maui	Windward
Get a degree	127 2.74	157 2.66	197 2.71	49 2.71	155 2.77	85 2.78	26 2.69
Broaden educational background***	133 2.41	163 2.56	212 2.43	54 2.69	150 2.62	85 2.55	28 2.86
Discover vocational interest	107 2.28	133 2.24	177 2.20	46 2.24	111 2.15	69 2.12	21 2.33
Prepare for a career	133 2.45	157 2.50	212 2.58	45 2.49	141 2.35	86 2.49	19 2.53
Prepare for career change	79 2.04	87 2.16	107 2.07	25 2.08	68 2.22	43 2.21	11 2.55
Improve knowledge/skills*	90 2.38	101 2.44	156 2.45	33 2.48	72 2.21	55 2.24	9 2.00
Gain practical experience	130 2.45	139 2.27	194 2.42	38 2.42	107 2.32	73 2.44	13 2.15
Increase chances for promotion/raise	73 2.11	83 2.22	116 2.05	24 2.21	66 2.02	41 2.10	8 1.75
Meet academic req. for admission***	65 2.09	80 2.28	74 2.30	22 2.32	105 2.62	46 2.54	21 2.81
Gain knowledge for personal use***	122 2.39	145 2.48	180 2.37	46 2.67	137 2.57	74 2.47	25 2.84
Make new friends***	117 2.56	127 2.32	175 2.27	48 2.48	127 2.49	76 2.47	22 2.59
Participate in campus activities*	84 1.96	64 1.69	77 1.69	29 2.10	62 1.98	40 1.90	10 1.90
Improve self-image**	115 2.32	119 2.21	157 2.20	40 2.45	117 2.47	78 2.41	20 2.45

[a] Levels of significance, based on analysis of variance, denoted thus: * .05 ** .01 ***.001.

E-5. EVALUATION OF COLLEGE EXPERIENCE

Note: The data below are mean scores based on the following scoring: 1(very dissatisfied), 2(somewhat dissatisfied), 3(somewhat satisfied), 4(very satisfied). The total number of students (left corner) may differ from item to item because students did not respond to all items.

Item[a]	Hawaii	Honolulu	Kapiolani	Kauai	Leeward	Maui	Windward
Knowledge from general education courses***	127 3.24	157 3.31	202 3.15	54 3.48	145 3.48	80 3.30	24 3.79
Knowledge from courses in major	128 3.41	159 3.39	206 3.44	53 3.47	147 3.49	79 3.57	22 3.36
Skills from all courses***	126 3.16	159 3.16	200 3.09	54 3.26	144 3.40	79 3.22	23 3.61
Quality of instruction***	128 3.20	159 3.35	208 3.14	54 3.39	145 3.49	80 3.33	24 3.83
Availability of necessary courses	135 3.16	161 3.12	216 3.06	54 3.15	160 3.19	87 3.00	27 3.04
Instructor accessibility***	138 3.45	159 3.42	218 3.17	53 3.43	159 3.49	86 3.44	27 3.85
Instructors' assistance in career development*	128 3.38	158 3.30	205 3.15	53 3.49	142 3.29	79 3.42	24 3.42
Quality of labs/studios/support facilities***	138 2.99	157 3.04	211 2.82	53 3.36	152 3.24	85 3.27	26 3.46
Total college experience***	126 3.25	158 3.35	206 3.24	52 3.48	146 3.54	80 3.43	24 3.88

[a] Levels of significance, based on analysis of variance, denoted thus: * .05 ** .01 *** .001.

E-6. EVALUATION OF COLLEGE SERVICES

Note: The data below are mean scores based on the following scoring: 1(very dissatisfied), 2(somewhat dissatisfied), 3(somewhat satisfied), 4(very satisfied). The total number of students (left corner) may differ from item to item because students rated only those services they used or found available at their campus.

Item[a]	Hawaii	Honolulu	Kapiolani	Kauai	Leeward	Maui	Windward
Admissions***	118 3.15	150 3.21	197 2.99	48 3.29	144 3.48	74 3.32	22 3.77
Orientation***	88 2.85	109 3.13	184 2.91	39 3.08	121 3.30	52 3.02	16 3.44
Registration***	123 2.98	158 3.11	207 2.42	51 3.06	145 2.84	78 3.10	23 3.43
Records***	79 3.00	128 3.14	144 2.83	39 3.05	123 3.28	56 3.32	19 3.37
Financial aids	63 3.11	36 3.22	67 3.18	20 3.30	40 3.28	45 3.33	10 3.40
Student employment	73 3.12	47 2.91	97 3.32	25 2.80	38 3.18	44 3.20	5 3.80
Academic advising*	92 3.18	120 3.00	161 3.01	42 3.17	123 3.11	69 3.33	14 3.64
Personal counseling	77 3.22	111 3.07	130 2.97	43 3.26	102 3.22	62 3.24	9 3.67
Learning assistance centers***	43 2.91	82 3.41	115 2.92	31 3.06	72 3.29	43 3.21	11 3.64
Testing services**	40 3.00	67 3.07	102 2.77	29 3.07	57 3.25	60 3.17	6 3.50
Career counseling	85 3.06	73 3.04	116 2.78	38 2.97	85 3.14	62 3.23	12 3.08
Job placement	39 2.51	52 2.69	75 2.97	24 2.83	29 2.38	30 3.03	2 3.00

Continued on next page

E-6. EVALUATION OF COLLEGE SERVICES (Continued)

Item[a]	Hawaii	Honolulu	Kapiolani	Kauai	Leeward	Maui	Windward
Food services***	90 *2.68*	134 *2.63*	172 *2.95*	18 *2.61*	120 *2.98*	63 *3.48*	11 *2.09*
Campus center/recreation***	72 *2.67*	77 *2.00*	77 *2.13*	30 *2.93*	84 *2.99*	36 *2.92*	9 *3.00*
Athletic facilities***	55 *2.36*	56 *1.63*	42 *1.79*	14 *2.00*	35 *2.49*	27 *2.59*	6 *1.67*
Library services***	125 *3.17*	150 *3.50*	195 *2.87*	48 *3.44*	156 *3.56*	86 *3.59*	27 *3.67*
Health services***	42 *2.93*	26 *2.73*	47 *2.55*	9 *2.22*	48 *3.56*	20 *2.90*	3 *3.00*
Housing services	42 *2.81*	19 *2.37*	23 *2.30*	9 *2.33*	15 *2.73*	14 *2.86*	3 *1.67*
Bookstore***	119 *3.16*	156 *3.07*	206 *2.87*	52 *3.44*	144 *3.17*	79 *2.99*	23 *3.13*
Parking***	114 *1.99*	134 *2.07*	145 *1.94*	52 *2.63*	134 *3.30*	76 *2.75*	22 *3.32*
Physical facilities***	118 *2.84*	149 *3.12*	196 *2.56*	48 *3.19*	137 *3.64*	70 *3.30*	23 *3.52*

[a] Levels of significance, based on analysis of variance, denoted thus: * .05 ** .01 *** .001.

APPENDIX F

DATA ON PROGRESSION AND PERSISTENCE

F-1. Graduates, by Sex, Campus and Program

F-2. Persistence Patterns, by Campus and Program

F-1. GRADUATES, BY SEX, CAMPUS AND PROGRAM

Characteristics	TOTAL				Fall 1975		Spring/Summer 1976		Fall 1976		Spring/Summer 1977		Fall 1977		Spring 1978	
	Total		New	Transfer	New	Transfer	New	Transfer	New	Transfer	New	Transfer	New	Transfer	New	Transfer
	No.	V%			No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
TOTAL	1,372	100%	996	376	8	5	71[a]	75[b]	37	42	406[c]	149[d]	229	48	245	57
Male	645	47%	468	177	5	3	15	21	7	19	221	74	97	27	123	33
Female	727	53%	528	199	3	2	56	54	30	23	185	75	132	21	122	24
Hawaii CC	235	17%	202	33	1		16	7	7	3	134	21	15	2	29	
Honolulu CC	275	20%	192	83	4	1	3	2	4	6	79	31	50	18	52	25
Kapiolani CC	353	26%	246	107	2		36	31	18	13	62	49	60	8	68	6
Kauai CC	93	7%	69	24			5	5	2	1	35	11	15	2	12	5
Leeward CC	237	17%	151	86		3	1	17	4	15	32	20	67	17	47	14
Maui CC	140	10%	112	28	1		10	7	1	3	56	13	15		29	5
Windward CC	39	3%	24	15		1		6	1	1	8	4	7	1	8	2
Liberal Arts	311	23%	201	110	1	4	6	26	4	14	59	32	62	16	69	18
Vocational Educ.	1,053	77%	790	263	7	1	65	49	33	28	344	116	167	32	174	37
Business	(387)	(28%)	(341)	(46)	(3)		(12)	(6)	(25)	(13)	(121)	(13)	(96)	(10)	(84)	(4)
Health Svcs.	(160)	(12%)	(76)	(84)			(41)	(33)	(1)		(26)	(48)			(8)	(3)
Hotel/Food Svcs.	(53)	(4%)	(37)	(16)			(2)	(3)	(2)	(6)	(14)	(3)	(9)	(3)	(10)	(1)
Public Svcs.	(80)	(6%)	(45)	(35)	(1)			(5)	(2)	(6)	(13)	(16)	(17)	(6)	(12)	(2)
Technology	(373)	(27%)	(291)	(82)	(3)	(1)	(10)	(2)	(3)	(3)	(170)	(36)	(45)	(13)	(60)	(27)
Unc./Special	8	<1%	5	3							3	1			2	2

[a] Includes 24 who graduated during Summer 1976: 21, Kapiolani; 3, Kauai.

[b] Includes 26 who graduated during Summer 1976: 22, Kapiolani; 4, Kauai.

[c] Includes 15 who graduated during Summer 1977: 13, Kapiolani; 2, Kauai.

[d] Includes 16 who graduated during Summer 1977: 16, Kapiolani.

F-2. PERSISTENCE PATTERNS, BY CAMPUS AND PROGRAM

Campus and Program	Total Number	Non-Persister		Stop-out		Moderate Persister		Extreme Persister		Graduate	
		No.	H%	No.	H%	No.	H%	No.	H%	No.	H%
HAWAII[a]	748	159	21%	54	7%	236	32%	68	9%	231	31%
Liberal Arts	185	37	20%	24	13%	84	45%	22	12%	18	10%
Business	193	23	12%	11	6%	64	33%	21	11%	74	38%
Public Services	53	11	21%	4	8%	23	43%	6	11%	9	17%
Technology	162	24	15%	3	2%	28	17%	13	8%	94	58%
Unclassified	95	49	52%	11	12%	29	31%	2	2%	4	4%
HONOLULU[b]	1,831	451	25%	130	7%	778	43%	200	11%	272	15%
Liberal Arts	531	115	22%	35	7%	288	54%	56	11%	37	7%
Public Services	362	87	24%	32	9%	150	41%	51	14%	42	12%
Technology	750	155	21%	47	6%	269	36%	88	12%	191	26%
Unclassified	168	92	55%	15	9%	60	36%	1	<1%	--	—
KAPIOLANI[c]	1,997	469	24%	193	10%	774	39%	210	11%	351	18%
Liberal Arts	625	126	20%	68	11%	348	56%	56	9%	27	4%
Business	845	186	22%	92	11%	281	33%	116	14%	170	20%
Health Services	199	27	14%	5	3%	51	26%	10	5%	106	53%
Hotel/Food Services	148	34	23%	12	8%	51	35%	22	15%	29	20%
Unclassified	161	93	58%	16	10%	33	21%	4	3%	15	9%
KAUAI[d]	485	165	34%	33	7%	165	34%	34	7%	88	18%
Liberal Arts	162	52	32%	13	8%	61	38%	13	8%	23	14%
Business	80	11	14%	4	5%	35	44%	8	10%	22	28%
Technology	76	11	15%	3	4%	29	38%	7	9%	26	34%
Unclassified	129	87	67%	10	8%	27	21%	3	2%	2	2%

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F-2. PERSISTENCE PATTERNS, BY CAMPUS AND PROGRAM (Continued)

Campus and Program	Total Number	Non-Persister		Stop-out		Moderate Persister		Extreme Persister		Graduate	
		No.	H%	No.	H%	No.	H%	No.	H%	No.	H%
LEEWARD[e]	2,573	551	21%	225	9%	1,182	45%	388	15%	227	9%
Liberal Arts	1,772	367	21%	156	9%	856	48%	268	15%	125	7%
Business	388	53	14%	29	8%	174	45%	69	18%	63	16%
Public Services	52	10	19%	4	8%	22	42%	8	15%	8	16%
Technology	157	38	24%	11	7%	57	36%	31	20%	20	13%
Unclassified	158	75	48%	21	13%	58	37%	4	3%	—	—
MAUI[f]	816	243	30%	76	9%	316	39%	43	5%	138	17%
Liberal Arts	346	93	27%	34	10%	155	45%	22	6%	42	12%
Business	162	34	21%	9	6%	60	37%	5	3%	54	33%
Technology	119	28	24%	9	8%	46	39%	10	8%	26	22%
Unclassified	143	81	57%	20	14%	34	24%	2	1%	6	4%
WINDWARD[g]	529	157	30%	46	9%	248	47%	39	7%	39	7%
Liberal Arts	457	137	30%	36	8%	213	47%	34	7%	37	8%
Unclassified	61	19	31%	8	13%	30	49%	4	7%	—	—

[a] Omits details for health services (41 entering students) and hotel/food services (19).

[b] Omits details for hotel/food services (20 entering students).

[c] Omits details for public services (19 entering students).

[d] Omits details for health services (16 entering students) and public services (22).

[e] Omits details for hotel/food services (46 entering students).

[f] Omits details for health services (27 entering students), hotel/food services (1), public services (1).

[g] Omits details for business (9 entering students) and technology (2).

APPENDIX G

REGRESSION WEIGHTS FOR IDENTIFYING THE POTENTIAL DROPOUT

G-1. Predicting Chances of Enrolling for the Second Semester

G-2. Predicting Chances of Graduating

G-1. PREDICTING CHANCES OF ENROLLING FOR THE SECOND SEMESTER

Variable and Scoring	Regression Weights: Liberal Arts							
	Total	Hawaii CC	Honolulu CC	Kapiolani CC	Kauai CC	Leeward CC	Maui CC	Windward CC
Credit-Completion Group (1.00=4; .80-.99=3; .50-.79=2; Below .50=1)	.0977	.1115	.0731	.1126	.1692	.0890	.1300	.0975
Full-/Part-Time Status (Full=2; Part=1)	.1547	.2410	.2331	.1280	.1333	.1667	.1422	.0464
Grade Point Average Group (3.5 & above=4; 3.0-3.4=3; 2.0-2.9=2; Below 2.0=1)	.0481	—	.0416	.0491	-.0195	.0496	.0244	.0965
Sex (Male=2; Female=1)	.0467	-.0150	-.0065	.0729	.0236	.0520	.0343	.1238
Educational Objective (Associate=2; Certificate=1)	-.0341	-.2098	-.4323	-.0821	-.1323	.0642	-.0665	-.0782
Entering Age Group (Over 24=3; 19-24=2; Below 19=1)	-.0231	.0064	.0135	—	.0931	-.0377	-.0109	-.0554
Marital Status (Married=2; Unmarried=1)	.0342	.1155	-.0196	-.0459	.0228	.0621	.0327	--
Constant	.1396	.3427	.9573	.2718	.0155	-.0524	.1526	.2250
	* * * *	* * * * *	* * * * * * *	* * * * * * *	* * * * *	* * * * * *	* * * *	* * * * * * *
Multiple R	.4327	.4991	.3961	.4882	.5139	.4348	.4674	.4485
R^2	.1872	.2491	.1569	.2383	.2641	.1890	.2185	.2012
Number of Students	3,292	162	401	575	129	1,430	272	323

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G-1. PREDICTING CHANCES OF ENROLLING FOR THE SECOND SEMESTER (Continued)

Variable and Scoring	Regression Weights: Vocational Education							
	Total	Hawaii CC	Honolulu CC	Kapiolani CC	Kauai CC	Leeward CC	Maui CC	Windward CC
Credit-Completion Group (1.00=4; .80-.99=3; .50-.79=2; Below .50=1)	.1188	.1341	.0983	.1406	.1029	.1141	.1351	
Full-/Part-Time Status (Full=2; Part=1)	.1328	.1548	.1685	.1095	.0552	.0951	.2158	
Grade Point Average Group (3.5 & above=4; 3.0-3.4=3; 2.0-2.9=2; Below 2.0=1)	.0507	.0180	.0553	.0519	.0958	.0347	.0687	
Sex (Male=2; Female=1)	.0372	-.0186	.0376	.0218	.0617	.0416	.1086	
Educational Objective (Associate=2; Certificate=1)	.0108	-.0159	.0348	.0272	-.0127	-.0117	-.0288	
Entering Age Group (Over 24=3; 19-24=2; Below 19=1)	-.0364	.0049	-.0274	-.0573	-.1274	-.0042	—	
Marital Status (Married=2; Unmarried=1)	.0121	-.0323	-.0212	.0653	.1493	-.0311	-.0776	
Constant	.0683	.1533	.0311	.0004	.1498	.2490	-.1516	
	* * * *	* * * * *	* * * * * *	* * * * * * *	* * * * *	* * * * * *	* * * * *	* * * * * *
Multiple R	.4952	.4751	.4765	.5396	.5342	.4288	.6059	
R^2	.2452	.2258	.2271	.2912	.2854	.1838	.3671	
Number of Students	2,751	381	815	769	137	412	228	

G-2. PREDICTING CHANCES OF GRADUATING

Variable and Scoring	Regression Weights: Liberal Arts							
	Total	Hawaii CC	Honolulu CC	Kapiolani CC	Kauai CC	Leeward CC	Maui CC	Windward CC
Credit-Completion Group (1.00=4; .80-.99=3; .50-.79=2; Below .50=1)	.0335	.0406	.0366	.0235	.0309	.0282	.0648	.0441
Full-/Part-Time Status (Full=2; Part=1)	.0593	.0919	.0647	—	.0590	.0726	.1219	.0160
Grade Point Average Group (3.5 & above=4; 3.0-3.4=3; 2.0-2.9=2; Below 2.0=1)	.0152	.0034	.0079	.0310	.0225	.0101	.0053	.0095
Sex (Male=2; Female=1)	-.0165	-.0085	.0354	-.0635	-.0397	-.0299	-.0255	.0708
Educational Objective (Associate=2; Certificate=1)	-.0600	-.0272	-.3329	-.0823	-.1569	-.0460	-.0857	.0210
Entering Age Group (Over 24=3; 19-24=2; Below 19=1)	-.0053	-.0538	.0297	-.0268	-.0368	-.0032	-.0535	-.0078
Marital Status (Married=2; Unmarried=1)	-.0123	.0542	-.0955	.0846	-.1212	.0036	—	.0103
Constant	.0268	-.0764	.5224	.1437	.4811	-.0100	.0518	-.2267
	* * * *	* * * * *	* * * * * *	* * * * * * *	* * * * *	* * * * * *	* * * *	* * * * * * *
Multiple R	.2412	.2657	.2618	.2649	.3932	.2479	.3481	.2717
R^2	.0582	.0706	.0686	.0702	.1546	.0615	.1212	.0738
Number of Students	3,292	162	401	575	129	1,430	272	323

Continued on next page

G-2. PREDICTING CHANCES OF GRADUATING (Continued)

Variable and Scoring	Regression Weights: Vocational Education							
	Total	Hawaii CC	Honolulu CC	Kapiolani CC	Kauai CC	Leeward CC	Maui CC	Windward CC
Credit-Completion Group (1.00=4; .80-.99=3; .50-.79=2; Below .50=1)	.0950	.1648	.0632	.0740	.1404	.0450	.1106	
Full-/Part-Time Status (Full=2; Part=1)	.1738	.1875	.1413	.1279	.2554	.1310	.2231	
Grade Point Average Group (3.5 & above=4; 3.0-3.4=3; 2.0-2.9=2; Below 2.0=1)	.0554	.0854	.0768	.0652	.0468	.0225	.0393	
Sex (Male=2; Female=1)	-.0293	.0794	.1323	-.1367	.0208	-.1092	-.1243	
Educational Objective (Associate=2; Certificate=1)	-.0857	-.0622	-.0386	-.0804	-.1449	-.1775	-.1064	
Entering Age Group (Over 24=3; 19-24=2; Below 19=1)	-.0521	-.0761	-.0221	-.0603	-.1117	--	-.0290	
Marital Status (Married=2; Unmarried=1)	-.0216	-.0724	-.0504	.0083	.0601	--	.0686	
Constant	-.1281	-.4206	-.4546	.0765	-.3222	.2498	-.1514	
	* * * * *	* * * * *	* * * * * *	* * * * * * *	* * * * *	* * * * * *	* * * * *	* * * * * * *
Multiple R	.4649	.5653	.4631	.4477	.4994	.4260	.5062	
R^2	.2161	.3196	.2145	.2004	.2494	.1815	.2562	
Number of Students	2,751	381	815	769	137	412	228	9

APPENDIX H

LIST OF STUDENT FLOW PROJECT REPORTS ON FALL 1975 ENTERING STUDENTS

Report Number	
2	Applications, Acceptances and Registrations (December 1975)
3	Applicant No-Show Survey (December 1975)
5	Entering Students Continuing in the Same Community Colleges in Spring 1976: Hawaii, Honolulu, Maui and Windward Community Colleges (March 1976)
9	Entering Students Not Continuing in the Same Community Colleges in Spring 1976 (April 1976)
10	Entering Students in Spring 1976: A Comparison of Continuing and Non-Continuing Students at the Beginning of Their Second Semester (May 1976)
12	Entering Students at the End of Their Second Semester: Fall 1975 through Spring 1976: First Report (September 1976)
13	Analysis of Nelson-Denny Reading Test Scores, Leeward Community College (October 1976)
16	Entering Students in Fall 1976, A Comparison of Continuing and Non-Continuing Students at the Beginning of Their Third Semester (November 1976)
17	Entering Students Not Continuing in the Same Community Colleges in Fall 1976 (December 1976)
19	Stability of Educational Plans for Fall 1976, An Analysis of Educational Plans Made in Spring 1976 for Fall 1976 (February 1977)
20	Spring 1976 Non-Continuing Students Registered at Other Community Colleges (February 1977)
21	Fall 1976 Non-Enrolled Students Registered at Other Community Colleges (March 1977)
23	Entering Students in Spring 1977, A Comparison of Continuing and Non-Continuing Students at the Beginning of Their Fourth Semester (April 1977)
25	Entering Students Not Continuing in the Same Community Colleges in Spring 1977 (May 1977)
26	Non-Enrolled Students Attending Other Institutions: Responses to Non-Continuing Survey (May 1977)

APPENDIX H (Cont.)

Report Number	
27	Entering Students at the End of Their Fourth Semester: Fall 1975 through Spring 1977: Second Report (September 1977)
28	Analysis of Persistence after Four Semesters (October 1977)
32	Fall 1977 Non-Enrolled Students Registered at Other Community Colleges (January 1978)
33	Entering Students Not Continuing in the Same Community Colleges in Fall 1977 (January 1978)
34	Entering Students in Fall 1977, A Comparison of Continuing and Non-Continuing Students at the Beginning of Their Fifth Semester (January 1978)
38	Entering Students in Spring 1978, A Comparison of Continuing and Non-Continuing Students at the Beginning of Their Sixth Semester (April 1978)
39	Spring 1978 Non-Enrolled Students Registered at Other Community Colleges (April 1978)
40	Entering Students Not Continuing in the Same Community Colleges in Spring 1978 (May 1978)
41	Survey of Fall 1975 Entering Students Who Graduated in 1975-76 or 1976-77 (June 1978)
42	A Comparison of Non-Continuing Survey Responses for Five Consecutive Semesters (July 1978)
43	Entering Students at the End of Their Sixth Semester: Fall 1975 through Spring 1978: Third Report (September 1978)
44	Analysis of Persistence in the Community College System after Six Semesters (September 1978)
45	Analysis of Persistence after Six Semesters (October 1978)
47	Survey of Fall 1975 Entering Students Who Graduated in 1977-78 (February 1979)
48	Comparison of Graduates and Non-Continuing Students (February 1979)
49	Entering Students Enrolled in Fall 1978 (Seventh Semester) (March 1979)

Note: Other reports dealt with Fall 1974 entering students, nature of the Student Flow Project and a few special studies (Employer Survey, Graduate Surveys).

APPENDIX I

SAMPLE QUESTIONNAIRES

I-1. Entering Student Survey (Draft)

I-2. Survey of Non-Continuing Students

I-3. 1977-78 Alumni Survey

I-4. Employers' Survey

DRAFT

I-1. ENTERING STUDENT SURVEY
U.H. COMMUNITY COLLEGES

Name ____

Social Security Number ____________________________

1. Why are you coming to college? (check all that apply)

___ 1. get a degree
___ 2. prepare for a career
___ 3. increase chances for a raise and/or promotion in my present job
___ 4. prepare for transfer to a four-year school
___ 5. learn skills for enriching my daily life
___ 6. improve my ability to get along with people
___ 7. become involved in campus activities
___ 8. develop self-confidence
___ 9. meet people and make friends

2. Which reasons were very important to you in selecting this college? (check all that apply)

___ 1. wishes of parents and/or other relatives
___ 2. advice of teachers, counselors
___ 3. school's good reputation
___ 4. advice of former students, friends
___ 5. location is close and convenient
___ 6. this college has courses I want
___ 7. low cost

3. Are you worried about how to pay for college? (check one)

___ 1. no
___ 2. somewhat
___ 3. yes, a lot; would you like to meet with a counselor? ___ yes ___ no

4. You will get money for your first year of college from: (check all that apply)

___ 1. work while attending school (full-time or part-time)
___ 2. your savings
___ 3. spouse (husband or wife)
___ 4. parents and/or relatives
___ 5. your boss (employer)
___ 6. grants (Basic Educational Opportunity Grant, Supplemental Educational Opportunity Grant and others)
___ 7. loans
___ 8. scholarships
___ 9. GI benefits, Social Security and other benefits

5. What career or occupation are you planning to enter? (e.g., welder, cook, nurse, teacher) ______________________________

6. What is the highest degree you plan to obtain from any college? (check one)

___ 1. none
___ 2. associate
___ 3. bachelor's
___ 4. master's
___ 5. doctor's or professional degrees
___ 6. other; please specify ______________________________

7. Are you now working in a paying job? (check one)

___ 1. no
___ 2. yes: part-time
___ 3. yes: full-time (35 hours or more weekly)

8. Have you worked or are now working in the field you'll be majoring in?

___ 1. yes
___ 2. no
___ 3. can't answer; I'm not sure what I'll major in

9. The chances are very good that you will: (check all that apply)

___ 1. change major field of study
___ 2. make at least a B average in this college
___ 3. need tutoring
___ 4. fail one or more courses
___ 5. seek counseling about what job to choose
___ 6. temporarily stop coming to college
___ 7. get the degree you seek from this college
___ 8. transfer to another college
___ 9. be satisfied with this college
___ 10. find a job in your field of study after graduation
___ 11. drop out after this semester

10. Your average grade in high school was approximately: (check one)

___ 1. A (above 3.5)
___ 2. B (3.0-3.5)
___ 3. C (2.0-2.9)
___ 4. D (1.0-1.9)
___ 5. No idea

11. How well did your high school courses prepare you in the following areas: (check each item)

Item	1. Not at all	2. Poorly	3. Adequately	4. Very Well
1. math skills				
2. reading				
3. writing				
4. science				
5. history, social studies				
6. job skills				
7. music and/or art skills				
8. study habits				

12. Father's occupation: ____________________ (e.g., mechanic, truck driver, accountant, etc.)

13. Father's highest schooling level: (check one)

___ 1. elementary school or less (grade school)
___ 2. some high school
___ 3. high school graduate
___ 4. postsecondary other than college (business school, technical school, etc.)
___ 5. some college (including junior or community college)
___ 6. college graduate (bachelor's only)
___ 7. some graduate or professional school
___ 8. graduate or professional degree

14. Mother's occupation: ____________________

15. Mother's highest schooling level: (check one)

___ 1. elementary school or less (grade school)
___ 2. some high school
___ 3. high school graduate
___ 4. postsecondary other than college (business school, technical school, etc.)
___ 5. some college (including junior or community college)
___ 6. college graduate (bachelor's only)
___ 7. some graduate or professional school
___ 8. graduate or professional degree

16. Estimated total yearly income of mother and father: (check one)

___ 1. Under $6,000
___ 2. $6,000-$7,499
___ 3. $7,500-$9,999
___ 4. $10,000-$14,999
___ 5. $15,000-$19,999
___ 6. $20,000-$24,999
___ 7. $25,000-$29,999
___ 8. $30,000-$34,999
___ 9. $35,000 or more

Mahalo!

I-2. SURVEY OF NON-CONTINUING STUDENTS
SPRING 1978

I. What is the main reason why you did not register this semester? (check one)

_____01. achieved goal
_____02. changed educational/vocational goals
_____03. transferred to another college
_____04. found desired classes unavailable; specify by checking one of the following:
    _____05. class closed; name of class _______________
    _____06. class hour conflicted with work hour
    _____07. college doesn't offer course; name of course _______________
_____08. academic difficulties
_____09. preferred to work
_____10. have financial problems; check if conference with advisor is desired; _____
_____11. unable to attend; GI Bill exhausted
_____12. have personal reasons (marriage, children, health)
_____13. other; please specify: _______________

II. During the Fall 1977 semester, did you work? (Check one)

_____1. yes--full-time
_____2. yes--part-time
_____3. no

III. What are you doing now? (check the one which best describes present activity)

_____1. looking for work; check if conference is desired: _____
_____2. working a. give title or position _______________
    b. check one: _____1. full time; _____2. part time
    c. Is your work related to your community college studies?
    check one: _____1. closely related
    _____2. somewhat related
    _____3. not related
_____3. attending another school
    a. specify school: _______________
    b. major field of study: _______________
    c. check one: _____1. full time; _____2. part time
    d. If attending a four-year college, were you able to transfer credits for community college courses numbered 100 or above:
    _____1. all course
    _____2. most courses List all courses which were not transferable: _______________
    _____3. some courses _______________
    _____4. few courses _______________
_____4. other; please specify: _______________

IV. Do you plan to continue your schooling in Fall 1978? (check one)

_____1. Yes; specify institution _______________
_____2. No
_____3. No, but hope to sometime after Fall 1978
_____4. Don't know

V. Please circle the number which best indicates your evaluation of your community college experience:

	Very	satisfied	Satisfied	Not	satisfied
01. Instruction	1	2	3	4	5
02. Faculty/student relations	1	2	3	4	5
03. Variety of courses you could take	1	2	3	4	5
04. Broadening your educational back-					

V. Please circle the number which best indicates your evaluation of your community college experience:

		Very satisfied		Satisfied	Not satisfied	
01.	Instruction	1	2	3	4	5
02.	Faculty/student relations	1	2	3	4	5
03.	Variety of courses you could take	1	2	3	4	5
04.	Broadening your educational background	1	2	3	4	5
05.	Acquiring job skills and knowledge for a job	1	2	3	4	5
06.	Developing personal interests	1	2	3	4	5
07.	Intellectual environment	1	2	3	4	5
08.	Counseling services	1	2	3	4	5
09.	Friendship with other students	1	2	3	4	5
10.	Facilities/equipment	1	2	3	4	5
11.	Total experience at college	1	2	3	4	5

VI. What are your suggestions for improving this college? (Please use other side.)

Mahalo!

I-3. 1977-78 ALUMNI SURVEY

Information on your college record:

ID NUMBER ☐☐☐-☐☐-☐☐☐☐

PLEASE CORRECT BELOW IF INFORMATION HAS CHANGED:

NAME ____________________

ADDRESS ____________________

____

ZIP CODE ____________________

GENERAL INFORMATION

① How many semesters, excluding summer session(s), did it take you to complete work for your degree or certificate at this campus?

1. [ ] 1-2
2. [ ] 3-4
3. [ ] 5-6
4. [ ] 7-8
5. [ ] 9-10
6. [ ] 11-12
7. [ ] more than 12

② Did you attend these semesters without a break (other than summer) in enrollment?

1. [ ] Yes
2. [ ] No

③ Check the activities below in which you are currently engaged. *(Check as many as apply)*

1. [ ] Employed full-time *(at least 35 hours per week)*
2. [ ] Employed part-time *(less than 35 hours per week)*
3. [ ] In school full-time
4. [ ] In school part-time
5. [ ] In active duty military service
6. [ ] Unemployed--not working but looking for work
7. [ ] Not in school, not working and not seeking work
8. [ ] Other: ____________________

ACADEMIC INFORMATION

PLEASE ANSWER QUESTIONS 4 THROUGH 8 ONLY IF YOU ARE CURRENTLY ENROLLED IN SCHOOL.

④ Are you enrolled
1. [ ] part-time
2. [ ] full-time

⑤ Which of the following schools are you presently attending?

01. [ ] UH Manoa
02. [ ] UH Hilo - Hilo College
03. [ ] UH Hilo - Hawaii Community College
04. [ ] UH Hilo - College of Agriculture
05. [ ] Honolulu Community College
06. [ ] Kapiolani Community College
07. [ ] Kauai Community College
08. [ ] Leeward Community College
09. [ ] Maui Community College
10. [ ] Windward Community College
11. [ ] West Oahu College
12. [ ] Other Hawaii college
13. [ ] Hawaii business or trade school
14. [ ] Mainland business or trade school
15. [ ] Mainland university or 4-year college
16. [ ] Mainland 2-year college
17. [ ] Foreign college or university
18. [ ] Other: ____________________

⑥ Toward which degree or certificate are you currently working? *(Check one)*

1. ☐ None
2. ☐ Certificate
3. ☐ Associate in Arts
4. ☐ Associate in Science
5. ☐ Bachelor's Degree
6. ☐ Master's Degree
7. ☐ Professional Diploma (Education)
8. ☐ Ph.D., Ed.D., J.D., M.D.
9. ☐ Other: ______________________

⑦ In what major field? ____

⑧ Did you have any difficulty in transferring credits when you enrolled at your present college? *(Check one)*

0. ☐ Does not apply
1. ☐ No, I did not experience difficulty in transferring credits
2. ☐ Yes, I experienced difficulty in transferring credits. *(Please briefly indicate the nature of the difficulty, including course numbers.)*

____

____

EMPLOYMENT INFORMATION

PLEASE ANSWER QUESTIONS 9 THROUGH 17 ONLY IF YOU ARE CURRENTLY EMPLOYED.

⑨ Are you employed *(Check one)*
1. ☐ full-time *(at least 35 hours per week)*
2. ☐ part-time *(less than 35 hours per week)*
3. ☐ more than one job

NOTE: PLEASE ANSWER THE FOLLOWING QUESTIONS CONCERNING YOUR PRIMARY JOB ONLY.

⑩ Please provide the following information about your current employment.

1. Occupation *(What do you DO? For example, truck driver, nurse, engineer, waitress, etc.)*

____

2. Name and address of employer ______________________________

____
Street *City/State* *Zip Code*

3. May we contact your employer for his/her review of our curriculum and instruction?

☐ Yes ☐ No

⑪ Are you currently employed by *(Check one)*

1. ☐ Private industry (not tourist)
2. ☐ Tourist industry
3. ☐ State government
4. ☐ City or County government
5. ☐ Non-profit organization
6. ☐ Federal government (not military)
7. ☐ Military
8. ☐ Self-employed
9. ☐ Other: ______________________

⑫ Where are you employed? *(Check one)*

1. ☐ Oahu
2. ☐ Maui
3. ☐ Molokai
4. ☐ Lanai
5. ☐ Big Island (Hawaii)
6. ☐ Kauai
7. ☐ Mainland U.S.
8. ☐ U.S. possession
9. ☐ Foreign country

⑬ What are your current annual earnings from this job? *(Check one)*

01. ☐ Less than $3,000
02. ☐ $3,000 to $5,999
03. ☐ $6,000 to $7,499
04. ☐ $7,500 to $9,999
05. ☐ $10,000 to $14,999
06. ☐ $15,000 to $19,999
07. ☐ $20,000 to $24,999
08. ☐ $25,000 to $29,999
09. ☐ $30,000 or over
10. ☐ Don't know; varies too much

⑭ How did you learn of this job? *(Check primary source)*

1. ☐ Held same job while attending school
2. ☐ Cooperative Education Program
3. ☐ College placement office
4. ☐ Public/private employment agency
5. ☐ Personal application to employer
6. ☐ Faculty/counselor referral
7. ☐ Referral through friend/relative
8. ☐ Other: ____________________

⑮ Do you consider this job to be the type of job in which you will make your career?

1. ☐ Yes, definitely will
2. ☐ Probably will
3. ☐ Probably will not
4. ☐ Definitely will not

⑯ Are you currently employed in your major field of study?

1. ☐ Yes
2. ☐ No, but my job is related to my major field of study
3. ☐ No, my job is not at all related to my major field of study

⑰ If your occupation is not related to your major field of study, what is the principal reason for selecting your present occupation? *(Check one)*

0. ☐ Does not apply. I have a job related to my major field
1. ☐ Not sufficiently qualified for a job in my major field
2. ☐ Found a better paying job in another field
3. ☐ Did not look for a job in my major field
4. ☐ Looked, but could not find a job in my major field
5. ☐ Other: ____________________

GENERAL EVALUATION OF COLLEGE EXPERIENCE

⑱ Regarding the campus from which you recently graduated, how much help did you get in reaching each of the goals listed below? *(If a statement was not a goal of yours, check the first column (0) only)*

This Campus Was a Great Deal of Help → 3
This Campus Was of Some Help → 2
This Campus Was Not of Much Help → 1
This Was Not a Goal of Mine → 0

		0	1	2	3
a. To get a degree	a.	☐	☐	☐	☐
b. To broaden my educational background	b.	☐	☐	☐	☐
c. To discover my vocational interest	c.	☐	☐	☐	☐
d. To prepare for a career, i.e., acquire specific skills and knowledge	d.	☐	☐	☐	☐
e. To prepare for a career change	e.	☐	☐	☐	☐
f. To improve knowledge and technical skills required in my present job	f.	☐	☐	☐	☐
g. To gain practical experience in an occupational field	g.	☐	☐	☐	☐
h. To increase my chances for a possible raise and/or promotion in my present job	h.	☐	☐	☐	☐
i. To meet academic requirements necessary for admission to a four-year or graduate/professional school	i.	☐	☐	☐	☐
j. To gain specific knowledge for my personal use/interest	j.	☐	☐	☐	☐
k. To make new friends and meet new people	k.	☐	☐	☐	☐
l. To become actively involved in student life and campus activities	l.	☐	☐	☐	☐
m. To improve my self-image	m.	☐	☐	☐	☐
n. Other: ____________________	n.	☐	☐	☐	☐

⑲ How satisfied are you with your experience at this campus in each of the following areas? *(Check one answer for each statement)*

Very Satisfied
Somewhat Satisfied
Somewhat Dissatisfied
Very Dissatisfied

			1	2	3	4
a.	Knowledge gained from general education courses	a.	☐	☐	☐	☐
b.	Knowledge gained from courses in your major	b.	☐	☐	☐	☐
c.	Skills (reading, writing, math, etc.) gained from all courses	c.	☐	☐	☐	☐
d.	The overall quality of instruction	d.	☐	☐	☐	☐
e.	Availability of courses offered that you needed	e.	☐	☐	☐	☐
f.	The accessibility of instructors	f.	☐	☐	☐	☐
g.	Instructors' assistance in your career development	g.	☐	☐	☐	☐
h.	Quality of laboratories and studios, other support facilities	h.	☐	☐	☐	☐
i.	Total experience at college	i.	☐	☐	☐	☐

⑳ How satisfied were you with each of the services listed below? *(If you never used the service, check the first column (0) only)*

Very Satisfied
Somewhat Satisfied
Somewhat Dissatisfied
Very Dissatisfied
Service Unavailable/Never Used

			0	1	2	3	4
a.	Admission	a.	☐	☐	☐	☐	☐
b.	Orientation	b.	☐	☐	☐	☐	☐
c.	Registration	c.	☐	☐	☐	☐	☐
d.	Records	d.	☐	☐	☐	☐	☐
e.	Financial aids *(grants/loans/scholarships/Work-Study)*	e.	☐	☐	☐	☐	☐
f.	Student employment *(on-/off-campus student jobs)*	f.	☐	☐	☐	☐	☐
g.	Academic advising *(graduation, transfer, etc., requirements)*	g.	☐	☐	☐	☐	☐
h.	Personal counseling/advising	h.	☐	☐	☐	☐	☐
i.	Learning assistance centers	i.	☐	☐	☐	☐	☐
j.	Testing services *(program placement, personal assessment)*	j.	☐	☐	☐	☐	☐
k.	Career counseling/advising *(exploring personal potential, vocational fields, manpower needs, etc.)*	k.	☐	☐	☐	☐	☐
l.	Job placement after graduation	l.	☐	☐	☐	☐	☐
m.	Cafeteria, food services	m.	☐	☐	☐	☐	☐
n.	Campus center and recreational facilities	n.	☐	☐	☐	☐	☐
o.	Athletic facilities	o.	☐	☐	☐	☐	☐
p.	Library services	p.	☐	☐	☐	☐	☐
q.	Health services	q.	☐	☐	☐	☐	☐
r.	Housing services	r.	☐	☐	☐	☐	☐
s.	Bookstore	s.	☐	☐	☐	☐	☐
t.	Parking	t.	☐	☐	☐	☐	☐
u.	Physical facilities: building and grounds	u.	☐	☐	☐	☐	☐

㉑ Do you feel that your college experiences have made and will continue to make an appreciable difference in the quality of your life? i.e., your life has been enriched. *(Check one)*

1. [ ] Yes, very much so
2. [ ] Yes, somewhat
3. [ ] Not at all
4. [ ] Don't know

㉒ What are your suggestions for improving this college?

THANK YOU!

I-4. EMPLOYERS' SURVEY
U. H. COMMUNITY COLLEGES

Serial No. ____________ **1. Position of this employee:** ____________

2. Is this person still in your employ? ____1. Yes ____2. No

3. Compared with employees you have observed in equivalent positions without the benefit of a community college education but with similar years of experience, the preparation of this graduate is (check appropriate block):

Knowledge, Skills, Attitudes	0. Not Applicable	1. Unsatis-factory	2. Satis-factory	3. Good	4. Excellent
a. Job know-how and technical knowledge		1.	2.	3.	4.
b. Application of technical skills and knowledge		1.	2.	3.	4.
c. Use of tools, equipment, machines		1.	2.	3.	4.
d. Mathematical skills		1.	2.	3.	4.
e. Reading		1.	2.	3.	4.
f. Writing		1.	2.	3.	4.
g. Speaking		1.	2.	3.	4.
h. Judgment; ability to decide, plan, organize		1.	2.	3.	4.
i. Creativity; finds new/better ways of doing things		1.	2.	3.	4.
j. Positive attitude toward work; commitment		1.	2.	3.	4.
k. Cooperativeness; works with others		1.	2.	3.	4.
l. Accepts advice and supervision		1.	2.	3.	4.
m. Assumes responsibility		1.	2.	3.	4.
n. Follows instructions		1.	2.	3.	4.
o. Initiative; performs necessary work without being told		1.	2.	3.	4.
p. Flexibility; adapts to new work assignments		1.	2.	3.	4.
q. Good attendance and punctuality		1.	2.	3.	4.
r. Appropriate grooming		1.	2.	3.	4.

4a. Total number of employees in your company in the State of Hawaii:
____1. Under 25 ____2. 25-100 ____3. 101-500 ____4. Over 500

4b. Estimated number of employees who are graduates of Hawaii's community colleges: ________

5. Based on your experience with community college graduates, what is your overall impression of the efforts of the community colleges in preparing students for employment?

____0. Insufficient experience ____1. Poor ____2. Satisfactory ____3. Good ____4. Excellent

6. Please indicate how important it is for the community college graduate to have each of the following before entering the world of work. (check appropriate block)

Item	1. Not Important	2. Somewhat Important	3. Very Important	4. Extremely Important
a. basic skills (reading, writing, speaking, mathematics)	1.	2.	3.	4.
b. specific technical skills of a particular occupation	1.	2.	3.	4.
c. general knowledge of a particular occupation	1.	2.	3.	4.
d. broad education	1.	2.	3.	4.
e. positive work attitudes and good work habits	1.	2.	3.	4.
f. effective human relations (communicates and works well with others)	1.	2.	3.	4.

7a. What is the single most important item above? (circle letter) a b c d e f
7b. What is single least important item above? (circle letter) a b c d e f

8. We're interested in your thinking about the community colleges in general. What are the colleges doing well? What needs strengthening? Please share your suggestions with us and feel free to continue on the reverse side.